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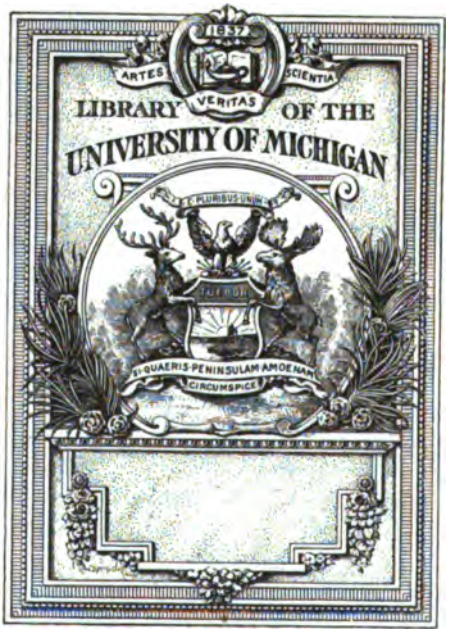
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REPORTS

FROM THE

CONSULS OF THE UNITED STATES

ON THE

COMMERCE, MANUFACTURES, ETC.,

OF THEIR

CONSULAR DISTRICTS.

F 2.14

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CONSULAR REPORTS

ON

COMMERCE, MANUFACTURES, ETC.

No. 45.—SEPTEMBER, 1884.

TRADE CIRCULARS AND CATALOGUES.

REPORT BY CONSUL CARROLL, OF PALERMO.

I have the honor to state, that printed circulars and catalogues, in the English language, are received daily at this consulate, accompanied by letters from American firms, requesting that they should be distributed among persons or firms engaged in the lines of business to which they variously refer.

With reference thereto I beg to say, that this procedure entails a useless expenditure of time and money, as there are few who can read them, and the few who can seldom approach an approximate understanding of them. This is true of Palermo, and I believe it to be true, in a modified degree, of all places in Italy, if not in all the non-English speaking countries of Europe.

In this connection it seems proper therefore to suggest, that the better way for those desiring to introduce goods into Italy and other countries of Europe would be to send their circulars, catalogues, &c., in Italian, French, German, &c., depending upon the country into which they desire to introduce their goods.

Again, samples of goods should be sent to responsible and duly appointed agents, for the purpose of exhibiting the character and quality of the articles sought to be introduced.

A responsible person as general agent in each country of Europe, with responsible and energetic subagents, for the introduction and sale of American goods, would greatly enhance the effort in my judgment, and appears to me to be the most feasible and competent means for a general or universal introduction of the goods in question.

In conclusion I beg to say that Germany, France, and other important countries alive to the extension of this trade have their represent-

atives here, who are as busy as possible at all times in the direction indicated.

There is a large field here, which only requires a little attention to make it remunerative.

PHILIP CARROLL,
Consul.

CONSULATE OF THE UNITED STATES,
Palermo, Italy, June 28, 1884*.

COMMERCE AND FINANCES OF SAN DOMINGO.

REPORT BY CONSUL ASTWOOD.

INTRODUCTORY.

In making my report for the year ending December 31, 1883, I cannot say that I am as sanguine of the permanent success of the commerce of San Domingo as I was when making my former report. The reasons for this are various. The condition of the Republic is a peculiar one, and its industries are dependent upon foreign capital and genius for its developments; the country is large, with vast resources, but its inhabitants are few, with small capital, and no great desire for large enterprises. You will be surprised to know that transportation is just as difficult to the interior of this republic as it is in the most uncivilized country. There is not a single wagon road of any kind penetrating more than 3 or 4 leagues into the interior. A railroad is being built from Samana Bay to Santiago; if ever completed it will open up rich tracts of lands, capable of producing immense crops of sugar, tobacco, coffee, cocoa, and other tropical fruits. All of the inland traffic is carried on by means of animals. Goods are unpacked at the seaports and placed in convenient packages, put upon the backs of animals, and carried into the interior. The products are brought in the same way, with the exception of sugar, which is cultivated near the seacoast, the interior lands not being available on account of transportation.

COMMERCE OF THE REPUBLIC.

The commerce of the country has reached its maximum, unless a reciprocal treaty can be effected with the United States. Its principal products are sugar and tobacco, and the price of these articles has been so reduced that the planters are in a bankrupt condition. I am of the opinion that not a single estate will be added to those already established, unless a treaty is effected, and if the present prices continue through another year there will be a general collapse. A treaty would doubtless be beneficial to both countries, but not upon the basis of the articles submitted in the Herald of June 19, 1884, and the Exporter for June, 1884. A well-regulated treaty will be the means of introducing into this country a large quantity of American manufactured goods not yet known here, a list of which I shall be pleased to submit

*According to a note from the consulate-general at Rome, it would appear that this report, which was directed to that office in the first instance was, by mistake of the Italian post-office officials, sent to the United States direct. On its receipt at Washington the post-office authorities here returned it to Rome, whence it was remailed to the United States. This is the reason why it bears so old a date.

if required, as I have given the matter much study, and there are points to be considered in connection with our shipping which are of vital importance. Such a treaty would immediately give an impetus to trade, and cause a great influx of capital and labor, which would increase consumption to a very great extent. But as I have written so much about this matter, it is useless to elaborate further in this report, but shall rather give a statement of the imports and exports for the year, together with a report of the financial operations as presented by the minister of finance in his message to Congress.

IMPORTATION.

The value of imports for the year 1883, through the different custom-houses, amounted in aggregate to the sum of $3,142,102.42, as follows:

San Domingo	$1,752,439 90
Porto Plata	797,681 33
Monte Christi	121,901 86
Samana	115,017 60
Azua	61,503 38
Barahona	5,555 38
Macoris	288,002 97
Total	3,142,102 42

The total amounts imported for the years 1880, 1881, 1882, are as follows: 1880, $1,748,912.94; 1881, $1,636,079.39; 1882, $2,039,403.64.

This increase of importation is not due to actual consumption, but to the large amount of machinery introduced for the manufacture of sugar, which will not be continued in the same proportion for the year ending December, 1884. All the machinery with but a few exceptions was imported from the United States. Several of the new estates began importing their machinery from England—the estate of Lithgow Bros., at Porto Plata, Castro Mola & Co., at Macoris, and J. B. Vicini, at Palenque. It is stated that the machinery from England is somewhat cheaper.

In considering our treaty this competition must be met. The introduction of sugar free into the United States will be the means of causing a large demand for machinery which should be produced entirely by our manufactories.

For the encouragement of the sugar industry the Government made a special grant by exonerating the import duty on all machinery for five years, which term will expire in 1885. A special clause in the treaty might cover this point, that after the expiration of the grant specified, no machinery be admitted free of duty from any other country but the United States until the expiration of the treaty. If not we will be crowded out of this branch by the cheap labor system of the English manufactories.

EXPORTS.

It will be seen by the monthly statements herewith submitted that there was exported from the custom-house of San Domingo the value of $954,329.46½; of this $856,975.89½ was exported to the United States, and $97,353.57 to all other foreign countries, the principal articles being sugar, honey, molasses, and lignum-vitæ. There will be found a large discrepancy in the statistics furnished by the minister when compared with the statistics of this office made up from the consular invoices.

The value exported in accordance with the Government statistics are as follows:

San Domingo	$773,296 99
Puerto Plata	915,988 29
Monte Christi	146,569 03
Samana	63,598 00
Macoris	112,443 23
Azua	103,602 61
Barahona	13.768 16
Total	2,129,266 31

This custom-house exported from actual statistics $954,329.46½, as will be seen by the annexed monthly statements, and not $773,296.99, as reported by the minister.

The quantity of products exported is as follows:

Articles.	Total amount exported.	Exported from the port of San Domingo.	Articles.	Total amount exported.	Exported from the port of San Domingo.
Sugar.....pounds..	20,425,000	16,036,919	Dividivi....quintals..	2,607	.....
Molasses.....gallons..	432,852	307,227	Espinillo.....feet..	33,536	.....
Tobacco.....quintals..	127,484	.....	Lignum-vitæ....tons..	2,388	859
Ox horns.....	4,500	.....	Bananas....bunches..	121	.....
Cedar.....feet..	1,216	.....	Ox bones.....tons..	62	.....
Logwood.....tons..	11,683½	150	Mora.....do...	222½	39
Wax.....quintals..	1,572.96	65	Honey.....gallons..	62,939	63,809½
Mahogany.....feet..	802,424	13,053	Corn.....barrels..	11	.....
Mahogany...crutches..	130,903	.....	Yams.....do...	8	.....
Turtle-shell...pounds..	312	56	Perico.....feet..	7,622	.....
Coffee.....quintals..	5,475	.....	Rosin.....quintals..	227	10½
Cattle.....	18	.....	Cigars.....	100,000	.....
Hides.....quintals..	23,450	23	Yellow-wood....tons..	556	.....
Goat-skins.....	29,251	702	Plantains.....	46,000	.....
Sheep-skins.....	789	.....	Poles of Zaza.....	1,012	.....
Cocoanuts.....	35,050	.....	Posts of Zaza.....	186,575	.....
Cocoa.....quintals..	5,249½	.....	Eddies.....barrels..	560	.....

The above embraces all of the articles exported from this Republic, and it will be seen that nearly all of the principal products with the exception of tobacco was shipped to the United States.

In comparing this statement with that of 1882, we find the following differences: In 1882 the number of vessels entering and leaving this port was 96, with a total tonnage of $34,880\frac{12}{100}$; of these 34 were American, with a tonnage amounting to $24,778\frac{56}{100}$, and 62 were foreign, with tonnage of only $10,101\frac{56}{100}$.

For the year 1883 there were 84 vessels entering and leaving the port, with a total tonnage of $38,968\frac{80}{100}$; of these 46 were American, with a tonnage of $24,757\frac{94}{100}$, and 38 foreign, with a tonnage of $14,210\frac{86}{100}$. There was an increase in foreign tonnage and a slight decrease in American.

The four principal articles compare as follows: In 1882 the quantity of sugar shipped amounted to, in pounds, 17,188,406, value $794,345.31. To the United States 17,114,437 pounds, value $790,911.02. In 1883 quantity of sugar in pounds 16,075,557, value $696,504.53. To the United States 16,036,919, value $695,341.23.

The quantity of molasses shipped in 1882, in gallons 437,832, value $728,812.24, all shipped to the United States. Quantity shipped in 1883, 343,527, value $47,576.79. To the United States 307,227 gallons, value $44,689.89. The balance was shipped to Martinique, amounting in gallons to 36,300, value $2,886.90.

The quantity of honey exported in 1882 amounted to 105,640 gallons, value $40,764.44, all shipped to the United States. Quantity shipped in 1883 in gallons 63,809, value $22,868.52, to foreign countries, in gallons 275, value $27.50. The quantity of lignum-vitæ shipped in 1882 in tons 2,350.229, value $52,041.21; to the United States 1,650,600 tons, value $38,442.61; quantity shipped in 1883 in tons 1,657, value $29,480.47. In comparing this statement, it will be seen that there was a great falling off in some of the articles. The discrepancy in the sugar crop was caused by the effect of the September hurricane in 1882.

INCOME.

The general income of the Republic for the year amounted to $1,422,665.83¾, together with $66,750.47¾ overplus from the previous year, making the total receipts $1,533,625.34¼.

The revenues for the year are divided as follows:

Whence derived.	Amount.	Whence derived.	Amount.
Import duties	$952, 970 65¼	6 per cent. additional tax	$139, 029 01¼
Export duties	172, 198 74¼	Wharfage	11, 980 72¾
Tonnage duties	48, 060 23¼	2 per cent. additional upon steamers.	19, 002 07¼
Entry duties	2, 912 37	2 per cent. to pay the foreign debt.	47, 693 58
Anchorage duties	2, 912 37	Duties paid on articles not manifested.	2, 530 82
Light dues	1, 688 20	Coasts permits	12, 099 17
Pilot dues	2, 473 26	5 per cent. for public instruction.	1, 174 98
Interpreter dues	965 55		
Signal dues	935 00		1, 422, 665 83¾
Sanitary dues	689 00		
Water-tax dues	63 00	Amount balance from last year	110, 959 51
Deposit dues	274 00		
Extra tonnage for cleaning the bar.	3, 012 57	Total	1, 533, 625 34¼

Disposed of as follows:

Distribution.	Amount.	Distribution.	Amount.
Amount paid to Bureau of Credit	$1, 239, 856 35¼	Amount paid for surveying the bar.	$1, 965 71
Amount paid to Bureau of National Credit on account of foreign debt.	54, 184 03	Amount expended in accordance with executive order of the 8th August 1882.	9, 889 77¾
15 per cent. to pay the interior debt	82, 067 12¼	Paid to Mr. Murphy for examining the bar	550 00
Amount paid to Company of Rents.	56, 961 89	Amount for extraordinary expenses	12, 255 44¼
1 per cent. of the import dues destined for the professional institutions	4, 578 50	Bond to the Company of Credit	56, 875 56¾
2 per cent. as subsidy for steamships.	11, 299 08		
5 per cent. for public instructions	1, 765 80	Total	1, 533, 625 34¼
Import duties reimbursed	1, 366 07		

EXPENSES OF THE SEVERAL DEPARTMENTS.

Nature of expenditure.	Amount.
To defray the expenses of the interior department	$207, 936 40
To defray the expenses of foreign relations	5, 958 03
To defray the expenses of justice, improvement, and public instruction	82, 299 45
To defray the expenses of finance and commerce	105, 115 10
To defray the expenses of war and marine, ordinary and extraordinary	545, 771 64
	947, 077 62

THE INTERIOR DEBT.

This debt consists of bonds issued by the Government, with a promise to pay without interest; 15 per cent. of the import dues are set aside to pay off this debt, averaging about $6,000,000 monthly; this amount is put up at public auction on the first of each month in lots of $5, $10, $20 each, and is knocked down to the highest bidder. The result of the average sales has been up to now an average of 7 per cent. The bonds can be bought in the market from $6 to $9 in cash for $100 in bonds. On the 31st of December, 1883, the debt amounted to $3,896,304.40. From the 26th of June to the 31st of December, 1883, the Government retired $348,137.67 of the bonds, leaving a balance in circulation December 31, 1884, $3,533,365.20 of the aforesaid bonds. If this debt could be consolidated, and, instead of the ridiculous manner now used to retire them, a certain rate of interest be stipulated and guaranteed, the bonds would immediately assume a negotiable form and add much to the nation's credit. But as there seems to be a lack of financial ability, this ruinous system must continue for some time, but there are evidences that the incoming administration will be more capable to treat this important matter.

INTERNATIONAL DEBT.

This debt is made up of foreign claims and is liquidated by setting aside 2 per cent. of the import dues. It is collected by the British vice-consul, and a dividend is paid every two months to each recognized claimant.

On the 31st of December, 1882, the debt was reduced to the small sum of $34,900.02; to this has been added $11,513 to the Spanish Government, for a vessel unlawfully taken by the Dominican Government, and an amount claimed by General Luperon, as owing to foreign citizens who aided him in his revolutionary efforts to defeat the annexation scheme, these amounts brought the debt up to $203.398.98. The amount collected during the year to pay off this debt as prescribed by law, through the several custom-houses, was as follows:

Custom-house.	Amount collected.	Custom-house.	Amount collected.
San Domingo	$28,512 77	Macoris	$712 00
Puerto Plata	16,229 54	Barahona	92 61
Azua	2,101 73		
Samana	2,510 30	Total	54,184 08
Monte Christi	4,015 95		

Reducing the debt to the sum of $149,214.95. $28,000 will be added to this debt to cover a claim presented by the Government of Holland for a brigantine called the Havana Packet, which claim has been admitted by the Dominican Government.

The house of E. Remington & Sons has a claim pending before Congress, which if admitted will add $46,920.18 to the debt, and as there are no other claims likely to be raised, this will be the maximum of the debt; with the present rate of payments it will be extinct in about four years.

THE COMPANY OF CREDIT.

This company is composed of a board of local merchants and several members of the Government. It was inaugurated at a time when the

country was entirely bankrupt, without any means to pay its current expenses brought about by incessant revolutions.

The Government entered into contract by pledging all of its revenues, with the exception of the 2 per cent. to pay the foreign debt, the 15 per cent. to pay the interior debt, and the 2 per cent. for public instruction, the company to collect all of the revenues and advance to the Government sufficient funds to defray its actual expenses, with an interest of 10 per cent. per month, agreeing not to rescind the contract at any time until the entire indebtedness was paid off. This contract has been strictly adhered to, notwithstanding the ruinous rate of interest. With the progress of the country, the company agreed from time to time to reduce the rate of interest to the following figures: San Domingo 3 per cent. per month; Porto Plata, Samana, Azua, Monte Christi, 5 per cent. per month.

The present indebtedness of the Government to the company is as follows: At San Domingo, $261,102.37; at Porto Plata, $108,250.85; at Porto Plata, extra, $20,268.68; at Monte Christi, $2,810.48; at Azua, $47,542.50; total indebtedness, $439,974.88.

This is an extraordinary scheme. The annual interest paid to this company by the Government amounts to about $289,755.56, upon a revenue of a million and a half of dollars. I think it has no parallel in the history of modern Governments.

The Government is trying either to effect a loan or to make some banking arrangements, giving the same absolute guarantee, so as to pay off this company, and, if possible, reduce its rate of interest to 10 per cent. per annum instead of 5 per cent. per month.

From the foregoing may be extracted a general idea of the business of the Republic, which I hope will be beneficial to those of our people who are interested here.

H. C. C. ASTWOOD,
Consul.

UNITED STATES CONSULATE,
San Domingo, August 1, 1884.

TIMBER BUSINESS AT ZAZA, CUBA.

REPORT BY CONSULAR AGENT BALLESTA.

Next to sugar, timber is the leading article of export at this agency. The forests are wild and very extensive, but for want of good roads and easy means of transportation the timber (mahogany and cedar wood) industry is confined to those lying nearer the coast.

Some persons buy the trees, generally paying from $3 to $4 (a dollar in Spanish is equal to .932 in American money) per tree, according to the number as it stands, with the right to select a fixed number of trees, according to the dimensions of the forest. Others buy the land and after taking the timber off of it sell it again. The latter is the cheaper way, as the land at present can be bought at from $50 to $70 per caballeria (equal to about 33⅓ acres), and after taking the timber therefrom it can generally be sold at higher prices, being then convertible into pastures for stock-raising.

The timber is cut and hewed at the forest in dimensions suitable for exporting, 12 by 12 and upwards. The rest of the tree, which is no

doubt one-third of it, is thrown away. Most all of the timber thus wasted could no doubt be utilized by the use of saw-mills run by water-power; or, another way, the small branches of the tree could be sold to ship and boat builders for timber and knees, as both mahogany and cedar are excellent for those purposes. The remnants could be made into charcoal, which is used for fuel to a great extent all over the island. In this way, if the business were conducted by experienced parties with sufficient capital, the value of a tree might be worth double what it now is.

The timber thus prepared is conveyed to the sea-shore in teams of four to six oxen. In former years, when the forests were nearer the coast, the expenses of conveying the timber to the sea-shore were much less. Good-size timber tracts are now from 10 to 15 miles in the interior.

At the sea-shore the timber is sold at prices ranging from $35 to $40 per thousand feet of good-size mahogany and cedar, and for mahogany of extra large size at prices from $50 to $60 per thousand. The timber is then conveyed by lighters, and rafts towed by lighters, to this port and the port of Trinidad de Cuba, which is 30 miles west of here. All the timber exported from Trinidad is taken from the forests lying east of this port though within the jurisdiction of this consular agency. It costs $4 per thousand feet to bring it to this port on lighters and rafts, but by arranging the business properly this price could be reduced, as the distance is only from 20 to 50 miles, and the water is very smooth all along the coast almost all the year except September and October.

When the timber reaches this port it is assorted and the ends cut off to meet the requirements of the markets for which it is intended, at a cost of, say, $2 per thousand, and the export duty is now $2 per thousand, though it is reported that this duty will be considerably reduced in a very short time. Prices in foreign countries have advanced for the last two years on account of the increased use of such wood in different industries, and if enterprising parties would enter into the business here such exports at this port would be largely increased. Generally the best quality and larger sizes are shipped to England, where they command a higher price.

The following table will show the amount exported from this port within the last five years, and the total cost of good-size timber, free on board at this port, as the foregoing figures indicate, may be put at about $50 ($46.60 United States money) on an average:

Year.	Number of feet.	Exported to the United States.	Exported to Europe.
1880	728, 000	.....	728, 000
1881	786, 500	460, 500	326, 000
1882	356, 300	356, 300	.....
1883	722, 000	627, 000	95, 000
First six months 1884	945, 800	945, 800	.....
Total	3, 538, 600	2, 389, 600	1, 149, 000

S. R. BALLESTA,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Zaza, August 6, 1884.

COMMERCE OF ZANZIBAR.

REPORT BY CONSUL CHENEY.

PRODUCTS OF ZANZIBAR.

The principal products of the island of Zanzibar itself are cloves, cocoanuts, and red peppers, and from its dependencies cloves, cocoanuts, gum copal, rubber, orchilla-weed, hides, and goat-skins.

Cloves.—The clove crop for this year has been very large both in Zanzibar and Pemba islands. No records are kept, but the best estimates are 50,000 fras.* for Zanzibar, and 250,000 fras. for Pemba, in all, 300,000 fras., valued at $1,050,000, and of which some 33 fras. were exported to the United States and the balance to Europe and India. Zanzibar is the market for Pemba cloves, which pay the Sultan a specific duty of $1.25 per fras. and the usual duty of 5 per cent. on selling price. On Zanzibar cloves no duty is levied. Red pepper is becoming quite an important article of trade here; this year were exported to the United States 3,600 fras. and to India and Europe estimated 5,400 fras., in all, 9,000 fras., valued at $36,000.

Cocoanuts.—The cocoanut is one of the principal agricultural products of Zanzibar, nearly the whole country being covered with the trees, which in favorable times yield $1 profit each per year. The nuts are dried and exported to France and England for soap, oils, &c. The husks are made into rope, of which a small quantity goes to the United States.

Gum Copal.—Gum copal is found on the African coast opposite Zanzibar, and is a monopoly of the Sultan, paying him 20 per cent. and 5 per cent. duty. It is all brought to the port of Zanzibar for sale, and is here cleaned for shipment. This year there have been exported to the United States 148,600 pounds, and to England and others estimated 100,000 pounds, in all, 248,600 pounds, valued at $196,850. The receipts of gum this year have been very small on account of the high prices of rubber at home, as when there is any profit in rubber the coast negroes prefer to chop rubber trees with a certainty of returns than to digging for copal for luck.

India Rubber.—Rubber is obtained in very large quantities on the mainland, but owing to the careless manner of preparation it is of very poor quality and has a bad name in the American and European markets. Exports to the United States this year 23,000 pounds, and to England and other places estimated 1,727,000 pounds, in all, 1,750,000 pounds, valued at $750,000. It pays a specific duty of $2 per fras. in addition to 5 per cent. on selling price.

Orchilla-weed.—Orchilla-weed is brought down in large quantities from the coast north of Zanzibar during the favorable monsoon, and is shipped to France, Germany, and England. There is no business in this article at present with the United States.

Dry hides.—Dry hides form an important part of Zanzibar exports, but are of poor quality and light weight. This year exported to the United States 47,749, and to other places (estimated) 75,000, in all 122,749, valued at $184,123.

* Fraaler of 35 pounds.

In addition to these articles, raised within the suzerainty of the Sultan of Zanzibar, there are many other valuable African products for which Zanzibar is the port of export.

Ivory.—Ivory comes under this head, and is the principal article of export to the United States. It is brought down in caravans from Central Africa to the coast, and is shipped over here in dhows. Owing to the constant killing of the elephants the supply is fast diminishing, and consequently the price rises gradually from year to year. This year exported to the United States 174,000 pounds, and to England, India, and other places 326,000 pounds; in all, some 500,000 pounds, valued at $1,500,000 In giving the preceding figures it is impossible to be absolutely correct, as no records of any kind are kept by the authorities, and we can only take the best estimates and private records.

IMPORTS.

Imports to Zanzibar are from England, the United States, India, Germany, and France, in the order named, the English being largely in excess. A duty of 5 per cent. on the selling price is levied on all imports.

English imports are principally calicoes, sheetings, shirtings, fancy handkerchiefs, bleached cottons, manufactured iron, coal, and smaller amounts of goods of all kinds.

There are two small English houses here, but the great bulk of the trade is done by Indians through London commission houses.

English trade is done almost wholly by steam; few English sailing vessels but coalers ever come here.

Since the introduction by the Sultan of a line of steamers between this port and India the business of Indian imports has very largely increased. Brown Indian sheetings, rice, wheat, corn, sugar, blue calico, furniture, and teak wood compose the inward cargoes, managed entirely by the native merchants.

There are four German houses doing business here, and their interests are very large. Their imports are made by the English mail steamers, sailing vessels, and one steamer under the German flag, and consist of cheap liquors of all kinds, gunpowder, glass and crockery, manufactured iron goods and bar iron, English cottons, and cheap trinkets and knicknacks of all kinds, beads, brass and iron wire, &c.

French imports are not very large, amounting to about $60,000 a year; coal, soap, liquors, and fancy articles are the principal ones. Up to the first of this year there was a large French house doing business here, and running a line of French steamers to Marseilles direct. They have recently failed, making a loss to the town of $700,000.

AMERICAN IMPORTS.

Imports from the United States are mainly brown sheetings, shirtings and drills, kerosene oil, and brown soap. For many years our great article of imports was brown sheetings, which had a very large sale, and were generally used throughout Central and Eastern Africa. Within the past three years we have had strong competition from imitation American cottons manufactured in India. They are folded in thirty folds, and marked "30," the same as a piece of genuine American of full 30 yards, but contain only about 26 to 27 yards to a piece. This swindle is perfectly well known by all the native merchants, who order the goods made this way to sell for full measure in Africa. At the present price of these goods it is impossible to sell American sheetings at a

profit, and unless the price of cottons at home falls very low American cottons will be driven from this market.

There is a little demand for brown shirtings and drills. Trade in kerosene oil is constantly increasing, and there are no restrictions whatever put on it by the Government here.

Common brown soap put up in 10-pound boxes of 12 bars each finds a ready sale here.

In general business for the past year has been very bad, and there seems no prospect of a change at present.

STEAM COMMUNICATION.

We have a line under the English flag running a monthly mail steamer via Aden to London, touching at the various ports on the coast; also, the Sultan has purchased six large steamers, which run irregularly between Zanzibar, India, and Madagascar.

SLAVE TRADE.

The slave trade here is virtually at an end. For many years the English Government has kept an old line-of-battle ship stationed here as a depot of supplies for the numerous launches and cutters which patrol the adjacent coasts. She is now being broken up and all patroling done away with, the English being content with establishing three vice-consuls at the ports on the coast nearest Zanzibar, and as they have compelled the Sultan to join with them in putting it down, the traffic is at an end.

CURRENCY AND REVENUE.

The currency of the place is almost wholly the Indian rupee, value of 47 cents, and a small quantity of Maria Therese German dollars, which are the standard dollar of trade.

All gold coins are at a premium. The Sultan recently made an effort to introduce a currency of his own, but was unsuccessful, as the business men preferred rupees. The Sultan's revenue consists of his custom-house receipts of $500,000, his tax on cloves, $300,000, and various other specific duties, amounting in all to about $1,250,000 per annum.

The total imports for the past year are estimated at $6,100,000, and the exports at $4,000,000.

In former times Zanzibar was a dependency of Muscat, paying the Imaum $40,000 a year. This is now done away with, and Zanzibar is perfectly independent.

TREATIES.

The four original treaties with the United States, England, France, and Germany are still in force, and no changes have been made except in regard to slave treaties by England. The Portuguese Government has recently made a treaty with the Sultan, which is not yet public.

The Sultan contemplates issuing a circular note to the treaty powers, asking that such changes be made in their treaties as will prohibit the importation of *cheap* liquors here. At present the market is flooded with the worst kind of Hamburg gin and rum, which is sold so low (12 pints for $1) that any poor native can purchase. This stuff is simply poison, and is ruining the poorer classes here, and the trade is only kept up for the profit of two or three wealthy German houses. The Sultan's object is only to stop this cheap-liquor business, which is ruining his people, and by no means to interfere with the liquors of such price and quality as are above the means of the poorer classes.

Attached to this report are tables showing the tonnage of the port of Zanzibar for this year and the imports and exports to and from the United States.

F. M. CHENEY,
Consul.

UNITED STATES CONSULATE,
Zanzibar, July 1, 1884.

Statement showing the imports and exports between Zanzibar and the United States for the year ending June 30, 1884.

Articles.		Imports.	
		Amount.	Value.
Sheetings, brown		1,685	$105,350
Shirtings, brown		1,655	83,300
Soap, brown	boxes	9,700	6,050
Kerosene oil	boxes	16,875	22,650
Bleached goods	boxes	25	1,900
Box-shooks		1,070	1,400
Lumber	feet	125,000	3,125
Muskets	cases	25	300
Turpentine	cases	25	150
Nails	kegs	10	50
			224,275

Articles.		Exports.	
		Amount.	Value.
Ivory, all kinds			$537,544
Gum copal	cases	743	106,850
Cloves		8,343	152,030
Hides		47,749	93,488
Rubber	cases	29,112	40,367
Goat-skins	bundles	877	20,269
Red peppers		1,194	14,801
Clove-stems		3,370	7,687
Coir yarn		115	1,833
Aloes	casks	46	2,099
Ebony	logs	549	723
Shells	cases	63	648
Orchilla-weed		5	244
Palm-kernels		10	53
Rugs		3	23
			979,159

Statement showing the navigation at the port of Zanzibar for the year ending June 30, 1884.

ENTERED.

Flag.	From—	Steamers.		Sailing vessels.		Total.	
		No.	Tons.	No.	Tons.	No.	Tons.
United States	United States	.....	.....	8	5,040	8	5,040
	Muscat	.....	.....	1	600	1	600
	Mauritius	.....	.....	1	600	1	600
	India	.....	.....	1	750	1	750
English	England	1	2,000	9	8,200	10	10,200
	India	22	29,400	2	560	24	29,960
French	France	3	4,100	.....	.....	3	4,100
German	Hamburg	6	6,500	11	4,600	17	11,100
	Madagascar	2	2,000	.....	.....	2	2,000
Arab	Muscat	.....	.....	1	500	1	500
	India	25	33,240	.....	.....	25	33,240
	Madagascar	2	2,000	.....	.....	2	2,000
Portuguese	Mozambique	.....	.....	1	175	1	175
		61	79,240	35	21,025	96	100,265

Statement showing the navigation at the port of Zanzibar, &c.—Continued.

CLEARED.

Flag.	To—	Steamers.		Sailing vessels.		Total.	
		No.	Tons.	No.	Tons.	No.	Tons.
United States	United States	.....	.....	7	4,340	7	4,340
	Muscat	.....	.....	2	1,350	2	1,350
	Mauritius	.....	.....	1	600	1	600
English	England	1	2,000	1	700	2	2,700
	India	22	29,900	2	560	24	30,460
				8	7,500	8	7,500
French	France	3	4,100	.....	.....	3	4,400
German	Hamburg	4	4,600	11	4,600	15	9,100
	Madagascar	2	2,000	.....	.....	2	2,000
Arab	India	25	33,240	.....	.....	25	33,240
	Madagascar	2	2,000	.....	.....	2	2,000
Portuguese	Mozambique	.....	.....	1	175	1	175
		59	77,740	33	19,825	92	97,865

NOTE.—The Arab and English steamers run between India, Aden, and Zanzibar, carrying mails, &c.

Statement showing the ships of war at the port of Zanzibar for the year ending June 30, 1884.

Flag.	Entered.		Cleared.	
	No.	Tons.	No.	Tons.
United States: Cruising	2	3,500	2	3,500
England:				
Cruising	29	34,900	29	34,900
Troop ships	2	7,000	2	7,000
France: Cruising	4	5,000	4	5,000
	37	50,400	37	50,400

AMERICAN INTERESTS IN MADAGASCAR.

REPORT BY CONSUL ROBINSON, OF TAMATAVE.

I inclose herewith a tabular statement of the imports and exports between this port and the United States for the half year ending June 30, 1884; and also a tabular statement of navigation at this port for the same period. For the same reasons as given in former reports I am unable to report the trade with other nationalities.

You will notice the great falling off in our trade, and will probably understand the cause of it without explanation. The war between this country and France (and consequent occupation of this town, and the blockade of two other ports, the next best to this for trade on this coast, with the feeling of uncertainty and fear that the other points of trade may be suddenly blockaded or bombarded by the French) is the sole cause.

At this port we are besieged by a native force, which, of course, prevents all direct communication with the interior. This port, it is true, is open to trade by payment of 10 per cent. duties on both imports and exports; and as all goods arriving have to be reshipped to other points on the coast in order to reach the interior, they pay duty to the native government at such points, thus paying twofold duties. And this is done on all goods coming to this port, except such as are kept here to supply the consumption of the town, which at present is not large in

any commodity except provisions, and of the class of American goods, to which our exporters have up to this day restricted themselves, little or nothing.

Produce for export gathered at the various points referred to, and brought here by coasters for reshipment to foreign countries, also pays twice, first to the natives at the points referred to, and, second, to the French on reshipment here. Such situation makes it a matter of interest to send the sea-going vessels direct to these various points instead of to Tamatave. And this is being done by all, except our shippers, whose vessels (one case excepted) never call at any other point than Tamatave on the east coast. They have never established posts at other points; nor have they any coasting vessels here to ply between Tamatave and these points; while the English traders have both. (The French had also until driven out by the war.) The result is that the American traders have to sell their goods at Tamatave to those who have posts at these points, as well as coasters; thus giving the latter an advantage over the former which has amounted to this: while the American goods have increased in price in the interior since the occupation of Tamatave from 50 per cent. to 75 per cent., and prices of such productions as we export to the States have decreased from 25 per cent. to 30 per cent. during the same period, the American traders have been compelled to receive and to pay about the same prices as before that period; the proprietors of the coasters exacting nearly all these surplus profits for freight and commissions.

At Majunga the situation is worse. That place, on the northwest coast, is occupied by a French garrison, and is also besieged by a native force, which cuts off all communication with the interior. Our trade there has been null during the past year. Not only that, but there are considerable sums due our merchants at that place, which by original agreement were to be paid in produce; that produce (hides) has been bought in the interior by the debtors (Hindus) and collected at a point some 60 miles up the Betsiboka River from Majunga; but the French will not permit boats to go up for it, and produce is rottening.

The west coast is open; at least I have heard nothing to the contrary. No vessel from that coast has been here for a long time, and communication overland has been interrupted during a year by difficulty of obtaining couriers, by reason of their fears to undertake the trips during the excitement in the country raised by the war. The last date received at this office from our consular agency at Andakabé was July 10, 1883. However, I am now making another effort to send dispatches overland, but have not yet had time to learn the result.

Late accounts from the capital, Antananarivo, state that the American branch houses there were entirely out of stock; that the stock of "American cloth" (what we call "domestics," which for years has been *the* staple of trade with the country) was quite exhausted; that, lacking these goods, the people were being compelled to resort to other sources of supply, using European goods in their place to some extent; but that the people were preparing to return to the use of home-made cloths, as to home production of every other necessary. They laugh at France's idea of conquering by depriving them of foreign trade.

Notwithstanding the instructions given to the French admirals to give all the facilities to commerce consistent with their operations, their peculiar manner of conducting the war is rapidly destroying it, or at least reducing it to as small dimensions as France or any other power can or could do, and making what little remains as precarious as possible; and, as usual, I suppose the United States trade is to be the first driven away.

However, if our merchants wish to maintain a foothold in the trade that remains, they should provide themselves with one or more small coasting vessels. A steamer would be the best, because safest, many of the places for posts being without harbors, only open roadsteads, and vessels are frequently obliged by sudden change of weather to put to sea and stand off until fair weather returns. A steamer of, say, about 200 tons burden, with a powerful engine, would be most suitable. However, sailing vessels are at present the only class in use. It is not only during the war that our merchants should be supplied with coasters; for in time of peace they are still more needed if it is expected to compete here with the trade of other nationalities. The present state of things will tend, if our merchants do not make strenuous efforts to prevent, to gradually displace their trade, especially in our unbleached cotton cloths, which for years past have ruled the market, and permit replacement by goods of European manufacture. What I have said above relative to the natives preparing to live upon home productions should not be construed as meaning that they will refuse to purchase foreign goods on principle; to the contrary, they will purchase such as long as the goods can be got to them and they can find the means to pay. What I mean to say is, that they are preparing for the time when their ports will all be blockaded, or when all the money shall have been run out of the country. Then, they say, the war will *really* begin; for then their people will fully understand the situation; and that neither goods nor money will be needed to carry on such a war as they intend to wage.

W. W. ROBINSON,
Consul.

UNITED STATES CONSULATE,
Tamatave, July 20, 1884.

P. S.—July 25.—I have just received notice from Admiral Miot that he intends to blockade Mahambo from the 10th of August next. This is a place north of this port and about ten miles south of Fenerivo. Vessels have been running to Mahambo since the blockade of Fenerivo, and discharging goods which were carried by land to the latter place, and receiving produce in the same way. The French do not keep their steamers constantly at the blockaded ports. At the present time there are none at any of those places, and this not on account of stress of weather, but for other duty.

Statement showing the imports and exports between Tamatave and the United States for the half year ending June 30, 1884.

Articles.	Amount.	Value.
IMPORTS.		
Brown sheetings ..... bales..	648	$47,060 56
Brown drillings ..... bales..	25	1,634 16
Assorted provisions ..... packages..	98	520 66
Total	.....	49,215 38
EXPORTS.		
India-rubber ..... pounds..	80,115	39,698 40
Dry salted hides ..... do..	9,826	26,768 36
Gum copal ..... do..	1,168	84 84
Total	.....	66,551 60

There have also been landed at Vatomandry, south of here, on this coast, from an American vessel, 270 bales; and at Mahambo, north of here, on this coast, from a German vessel, 100 bales. Total bales of sheetings landed at both places during the quarter, 370; value, $26,871.25.

Statement showing the navigation at the port of Tamatave, Madagascar, for half the year ending June 30, 1884.

ENTERED.

Flag.	From—	Steamers.		Sailing vessels.		Total.	
		No.	Tons.	No.	Tons.	No.	Tons.
American	Boston and New York	.....	.....	3	1,392	3	1,392
British	Mauritius	7	12,795	6	1,232	13	14,027
French	Bourbon	9	5,774	2	141	11	5,915
German	Mauritius	.....	.....	1	480	1	480
		16	18,569	12	3,245	28	21,814

CLEARED.

Flag.	To—	Steamers.		Sailing vessels.		Total.	
		No.	Tons.	No.	Tons.	No.	Tons.
American	Boston and New York	.....	.....	3	1,392	3	1,392
British	Mauritius	7	12,795	6	1,232	13	14,027
French	Bourbon	9	5,774	2	141	11	5,915
		16	18,569	11	2,765	27	21,334

THE DEER FORESTS OF SCOTLAND.

REPORT BY CONSUL HARTE, OF GLASGOW.

I have the honor to report that the renewal of proceedings for the eviction of tenants at Kintail, Ross-shire, by a wealthy American citizen, who is lessee of one of the largest deer forests in Scotland, has revived, with considerable vigor, the agitation already begun in favor of a reform of the land laws. As it may be of interest to the Department to know the rights under which the eviction is claimed and resisted, I have the honor to submit a few facts in relation to the law governing these lands, the power assumed by the landholder, and the common sentiment of the people. The fact that the present claimant for the fullest privileges of a feudal landlord is an American citizen is of course irrelevant to the purely legal point at issue, but I have reason to believe that his action is considered here as no more fairly representing the fundamental principles of his own country than the progress and liberal sentiment of the country where he resides.

The agitation in favor of land reform is represented by two classes of reformers—the moderate party, who ask to have the laws of entail and primogeniture abolished and the transfer of land made easier and less expensive, and the more advanced reformers. The latter, under the like of the "Land Restoration League" hold "that the fact that the land of Scotland—the rightful heritage of the whole people of Scotland—having by a long course of usurpation and fraud been made the private and exclusive property of a few of their number, is the reason why more than two-thirds of Scottish families are compelled to live in houses of one or two rooms; why wages are so pitifully low in every department of industry, and why producers of wealth, those who earn their bread in the sweat of their brow, eat scant and bitter bread, while many of

those who do nothing to produce wealth revel in profuse and wanton luxury, drawing from the Scottish people immense sums to be spent in riotous living abroad—the reason why Scotchmen are compelled to emigrate, while great tracts of their native land, from which men have been driven, are given up to beasts and sport."

They also hold "that those evils can be cured only by such a full and complete restoration of the land of Scotland to the Scottish people as will secure to the humblest and weakest of our number his *just share* in the land," and propose to effect this restoration by *shifting all taxation onto the value of land*, irrespective of its use or improvement, and finally *taking all ground rent for public purposes*.

It may be conceived that the exponents of these views as well as their more moderate brethren both strongly object to the present system of converting land into forests for preservation of deer and game, whose proprietors look only to the increased rental which can be got for land let to a sporting tenant, over that let as merely farming land. They allege that the quantity of land which has been converted into forest within the last thirty years is about 2,000,000 acres. The rental obtainable for the ordinary moorland for sheep grazing is about one shilling per acre, and when cleared for deer in many cases nearly double this sum can be got. The largest landed proprietor in the Highlands is the Duke of Sutherland, who owns (including the duchess's property) 1,326,453 acres, yielding a revenue of about £65,000, or about one shilling per acre over all; and if his grace were to make extensive clearances for forests he might almost double the present rental of his Scotch estates. The largest sporting tenant in the Highlands is the American already alluded to, whose huge forest extends to about 220,000 acres, and the rental of which is about £20,000 per annum. The 2,000,000 acres thus converted are wholly withdrawn from contributing to the support and prosperity of the people. No doubt venison is produced, but it is not worth speaking of; it is often left on the ground or given to dogs.

From the time of the Normans in Scotland deer forests have been a grievance, and the King himself, from the extent of royal forests, appears to have had a lion's share of the hunting ground. The English lawyer, Manwood, describes a royal forest as "a certain territory or circuit of woody grounds and pastures, known in its bounds and privileged for the peaceable being and abiding of wild beasts and fowls of forest, chase, and warren, to be under the King's protection for his princely delight"; and according to the Saxon Chronicle of 1087—

> He planted a great preserve for deer, and he laid down laws therewith that whoever should slay hart or hind should be blinded. He forbade the harts and also the boars to be killed. As greatly did he love the tall deer as if he were their father. He also ordained concerning the hares that they should go free. His great men bewailed it, and the poor men murmured thereat; but he was so obdurate that he recked not of the hatred of them all; but they must wholly follow the King's will, if they would live, or have land or property, or even his peace. Alas that any man should be so proud to raise himself up and account himself above all men! May the Almighty God show mercy to his soul, and grant him forgiveness for his sins.

I venture to quote this, as quite recently, in 1862, an attempt was made by the Duke of Athole to have it declared by the law courts that the right to kill deer was *inter regalia*, and that no one was entitled to exercise that right even on his own lands without a grant from the Crown. The duke alleged he had a grant from the Crown of the right to kill deer and that the forest of Athole was a royal forest, one of the privileges of which was that the keepers could enter on adjoining lands and drive back the deer which had strayed, or otherwise capture them.

The purpose which the duke had in view in going into court was to prevent a proprietor, whose lands adjoined the forest of Athole, from killing deer, and to enable the duke to enter on the adjoining lands and kill the deer thereon, or drive them back to his forest. The court, however, held the propositions sought to be established by the duke not well founded in law. It held that by the Roman law the chase was free to all men, and wild animals belonged to the person who first seized them, whether they were found on his own lands or on the lands of another, but no one could enter the grounds of another for the purpose of sport, and if he did so he was liable to the penalties of a trespasser. It also held that the common law of Scotland was based substantially on the same principles. In a previous case it was held that in Scotland wild beasts, being *ferœ naturæ*, were not the property of the Crown; and the "English notion" that the right of game is in the Crown was denounced as a mere subtlety of the Norman lawyers which had no solid foundation.

The royal commission appointed to inquire into the position of the crofters and cotters in the Highlands and islands of Scotland recently took evidence on the questions remitted to them, and the subject of deer forests was also considered. The depopulation necessary for the conversion of the land into deer forests was brought prominently before the commissioners. It was alleged that instances could be adduced of townships cleared away, or deprived of their lands to such an extent that the people found it their interest to leave. In some districts the lands had been previously cleared for large sheep farms, and the deer had only to take the place vacated by the sheep. The farmers' and shepherds' families are being replaced by one or two solitary game watchers brought from a distance, who are generally idle and dissipated. It is maintained that in this way there is a constant draining away of the industrious populations which cannot fail to have the worst effect on the country. It was also alleged that the land now cleared for deer might be made available for profitable occupation by crofters. Cases were brought forward where undoubtedly land now under forest has been formerly occupied by crofters, and where crofters might again be located. But, on the other hand, it is maintained by some that a great part of the land is naturally unfit for occupation by crofters owing to the rock, heather, and moor, and the altitude of its situation.

Another objection to deer forests is one which affects not only the inhabitants of the Highlands, but the whole community. It is alleged that deer forests might be occupied by sheep farmers, and that a great loss of mutton and wool to the nation might thus be avoided. It was stated that in former years myriads of sheep and thousands of cattle were sent to market from lands which now produce nothing. No doubt the large importations from abroad have hitherto made this less felt than it would otherwise have been. Were, however, the supplies from abroad to be, from any cause, restricted, the people would no doubt suffer from increased prices. The estimation was that about 5 acres of forest land would be required to graze one sheep, and that the quantity of sheep that might be grazed on the existing forest would be 400,000. This is no inconsiderable item when compared with the total number of sheep of Scotland. The commissioners, however, in their report treat this objection lightly. They estimate 27,000,000 as the tale of the sheep of the United Kingdom, and reckon the 400,000 that might be raised on forest land as insignificant.

The complaint that arable ground possessed by crofters adjoining deer forests had been injured by deer was also considered by the com-

missioners, and although cases of injury and hardship were made out, it was considered that redress might be had by obliging the proprietor to fence; by recovering damages; or by giving a right to the crofter to kill the deer found on his land, without absolutely abolishing the forest system.

Another objection to deer forests, on which much evidence was taken, is that from the vagrant and desultory habits of the deer, as well as from their smaller number in comparison with sheep, much of the grass remains uncropped; that a wild and rank vegetation springs up; that the surface lapses into a state of nature; and that the neglect of burning and surface draining accelerates this result. Those who favor the deer forests maintain that the reason of the inferiority of the pasture lies in the continuous exhaustion of the lime and phosphates which are required to build up the frame of the animal, while there is no restoration to the soil of any of its more valuable constituents in the shape of top-dressing, and, further, that if any manurial value may be attached to the droppings of either animal on the rough mountain pasture, the advantage ought rather to be credited to the deer than to the sheep. The commissioners, without expressing any opinion on this technical point, remarked that if land grazed by deer be deteriorated in consequence of want of burning that deterioration was obviously capable of being remedied.

The last complaint made by the opponents of the forest system is the alleged demoralizing effect of sporting employment on the character of the people brought into contact with it. It is said that the life led by the gillies and underkeepers is demoralizing in the extreme and soon renders the majority of them useless for any purpose except that for which they are trained, so that when thrown out of employment they become simply an incubus on society. Removed as most of them are from all the influence of religion, education, and social family life, it is difficult to foretell what they may become. The commissioners on this head admit that it is possible that the nature of their avocation and associations may offer them temptations and opportunities of casual indulgence to which they would not be exposed in their domestic life, but maintain that much in this matter must depend on the character and position of the employer.

The conclusions arrived at by the commissioners are (1) that from existing forests no injury has accrued to farming or to farmers, and some gain to proprietors and their dependants; (2) that there is a limit beyond which the extension of the forest system ought to be prohibited or discouraged by the action of the legislature. They express an opinion that nearly all the land suitable for forests has already been taken up, but, in view of the possible extension of the forest system, make a suggestion that the further appropriation of land to such purposes should be prohibited below a prescribed contour line of elevation. This recommendation has been made in the design that the areas which might hereafter form the most appropriate scene for expanding cultivation and small holdings should be preserved from curtailment. But this argument can be used also in support of the disafforestment of existing deer forests which the commissioners disapprove of.

It remains to be now seen what action, if any, the legislature will take on the facts disclosed, to which the proceedings of the American lessee at Kintail will undoubtedly contribute something, even if it does not fairly represent the best principles and feeling of two great nations.

BRET HARTE,
Consul.

UNITED STATES CONSULATE,
Glasgow, August 29, 1884.

ELECTRIC STREET LIGHTING IN VIENNA.

REPORT BY CONSUL-GENERAL WEAVER.

In reply to dispatch under date of June 17, 1884, relative to the application of electricity for the purpose of street lighting in Vienna, I have to report as follows:

There is at present no system of street lighting by means of electricity in existence in Vienna, and as far as I can learn none projected or likely to be introduced in the near future. About a year ago experiments were tried by the Brush Company on the Graben, one of the principal streets of the city, with the arc light, composed of the well-known Jablochkoff's carbon candles, which gave satisfactory results, at least to the public; but as they were only intended as a means of advertising, mainly at the expense of the company, it was not expected that they should be permanent.

There are now, so far as I know, only two railway stations, several coffee-houses, and restaurants, two or three large stores, and one newspaper office lighted by electricity.

In most cases the arc lights are used, but in the Neue Freie Presse, one coffee-house, and one restaurant the incandescent lights, the Edison system or some modification thereof, are used. These latter give much greater satisfaction than the arc lights, which are not so constant and less agreeable to the eyes, being two vivid, and casting ghost-like shadows over every object.

Other special efforts have been made at the theaters, in the imperial palace, exhibitions, and public gardens during the last two or three years, but they could not be maintained, simply on the ground of the great expense attending them. While giving the greatest satisfaction, yet the motive power could not be obtained without undue expense, for in the city smoke-stacks could not be erected, hence gas had to be consumed as a motive force, consequently very costly.

The English gas company having a concession of lighting the city for many years to come further complicates the introduction of electric light, as it prevents the city proper from adopting the latter as long as they are obligated to the former.

As is well known, electric light cannot be brought into general use, or at least it is very difficult and expensive to do so, unless some general system be provided by means of a joint stock company or other joint effort, so as to reduce the cost that it may be possible to use it for private houses. These companies, as yet, have not received sufficient encouragement to warrant a general effort.

Again, the experts themselves, as well as the people, are waiting for something better and cheaper to be invented before the transition from gas to electricity, as a lighting medium, be made.

The new Burg theater at Vienna will be lighted with electricity, it is said; the Brünn theater has been for several years, and there can be no doubt that for such purposes electric light far surpasses gas, but then as yet it must cost much more, and in general it can only be used as a luxury, or as an advertising medium, which is principally the case at present in Vienna.

When the transmission of power shall be perfected so that less force is lost in the process, Vienna will be wonderfully situated and well

suited for adoption of electric light, having a rapid river of unlimited power at her door whose forces may be gathered and bottled up during the day to be let out during the night in the form of electric light.

JAMES RILEY WEAVER,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Vienna, July 8, 1884.

ELECTRIC ESTABLISHMENTS IN VIENNA.

[Prepared by Professor Pfaff, by request of Consul-General Weaver.]

The first public experiments with electric lighting and the transmission of power in Vienna took place during the World's Exhibition in 1873. Gramme, of Paris, as well as Siemens, of Berlin, made experiments with arc lights, the former in the lantern of a light-house exhibited by Sautter, Lemonnier & Co., of Paris, and the latter on the top of the rotunda of the exhibition building at a height of eighty meters above the ground. Both these lights received their currents from magneto-electric machines, but continued only for a short time. Another experiment in lighting was made outside the exhibition by means of a so-called Alliance machine.

While these brilliant experiments were being made before great crowds of people the transmission of power by an electric current, which was shown at the same time by Gramme, remained generally unnoticed. The means employed for this purpose were a magneto-electric machine to produce the current, a second one to receive it, and a small centrifugal pump to exhibit its working power. The machines were fixed at suitable distances from each other on an iron water-tank, and joined together by a transmission belt. When the pump was worked it raised a proportional quantity of water to the height of about one meter, and then let it fall back again into the tank, through an opening of about 80 millimeters in diameter.

This experiment, although attracting but little notice at that time, was subsequently brought vividly to memory when Gramme, during the International Electric Exhibition of 1883 at Vienna, exhibited the same machinery in activity which had been working in 1873. The distance of the two magneto-electric machines from each other, or, in other terms, the length of the transmission belts of 1873, has slipped our memory, but those of 1883 measured about 120 meters.

It should also be mentioned that at the exhibition of 1873 there was also a magneto-electric machine of Austrian manufacture, namely, that of Professor Osnaghi, the present president of the Nautical School in Trieste.

During the dull years subsequent to 1873, when business was at a standstill, nothing of importance was done in Vienna in respect to electro-technics. It is true certain persons were making some practical experiments, but they possessed neither the necessary knowledge nor the requisite means to carry them through successfully, so that we were limited to the progress made in Paris and Berlin. A first application of electricity was made at the Imperial Opera House of Vienna by introducing there in 1875 a Gramme machine to exhibit the effect of the light, which is still working to-day. In 1876 the reading club lighted its hall first with one and afterwards with two arc-lamps, increasing the number successively to seven lamps, which are still in operation. Both these arrangements were made by Gramme.

In 1879 the Neue Freie Presse introduced electric light into their composing and press rooms and offices, for which purpose they used the machines and lamps of Siemens, of Berlin. The latter in the same year also undertook the lighting of the passenger station of the Southern Railroad, which was followed in 1881 by that of the Western Railroad, also executed by Siemens. The same year electric light was introduced into the machine shops of the State Railway Company by the Brush Company, namely, by means of sixteen arc lights.

While the above-named installations are definitely settled and are still regularly working, numerous applications of electricity for illuminating purposes, of a temporary nature, took place at the same time in which Gramme and Siemens as well as certain Austrian firms, primarily Egger, took part. The latter, on festival occasions, illuminated the rooms of the Cursalon by means of Gramme machines; those of the Musikverein with batteries; and in 1880, during the Industrial Exhibition, he produced dynamo-machines made by himself, which caused a small electric railway to run.

During this exhibition a great electric illumination of the Rotunda square and its surroundings took place, in which Siemens participated by break-current machines (Wechselstromanlagen) and Egger by an arrangement for producing a similar current. Siemens on this occasion used the iron roof of the Rotunda as a conductor.

It would lead too far to describe all the arrangements made for occasional illuminations up to the present time. We, therefore, will mention only those of importance. To these belong the trial on a large scale in 1881 of the lighting of the Graben, one of the principal streets of the city, with arc lights by the Brush Company. The sixteen lamps placed one after the other did not, however, burn quietly, which was attributed to the imperfect working of the machinery, consisting of a stationary engine. From 1882 to 1883 the use of the stage of the Imperial Opera House was given to the Brush Company for experimental illuminations by means of incandescent lamps and accumulators, which worked most excellently during one season before the eyes of the public; not, however, without great trouble and concern to the attendants, to whom the accumulators caused constantly serious difficulties.

After the electric exhibition of Paris in 1881, the Austrian electro-technologists became also known, such as Egger, of Vienna, Krizjk, of Pilsen, Gülcher, of Biala, and Ganz-Zippernowsky, of Budapesth, who began to prepare in Vienna certain installations which we will now proceed to enumerate. First, the café Schnitzer on Schottenring must be mentioned, which was fitted up by Krizik in 1881–'82. The first factories lighted by electricity were the jute-mill in Simmering, near Vienna, fitted up in 1881 with Brush arc lamps, and the works of the first Austrian soap factory, also in Simmering, with Krizik's arc lights and Schuckert's dynamos. The Arcaden coffee-house followed in 1882 with arc and incandescent lamps by Ganz; the group of houses of the Union Building Company in Reichsrathstrasse with Edison and Gramme lights, and the passenger depot of State Railway Company with Ganz lights. The latter has procured up to the present time ten break current (Wechselstrom) arc lamps, fed by a machine placed at a considerable distance. It is intended shortly to erect at the station a 40-horse-power gas-machine for the purpose of maintaining its present electric light and its projected increase. In 1883 began the lighting installations of the printing works of Steyrermühl, executed by Edison, the repair shops of the State Railway Company by Gramme, and of a hat-store by Shückert with Maxim lamps.

The International Electric Exhibition, it is curious to say, brought the progress of electric installations to a relative stand-still. But it must be mentioned that the workshops of the State Railway Company, besides the electric light, introduced also a considerable transmission of power, and placed these installations under the management of a prominent special engineer, Mr. J. Kolbe. The workshops of the agents for Edison and Gramme, Messrs. Brückner, Ross & Co., are also working in an extensive way with electric transmission of power.

Lately, that is, during the current year, some installations have been made, viz, the lighting of the sales-room of Elsinger & Son by Siemens, Milch & Hellius, house by Ganz, Roth's cartridge factory by Siemens, and the building of Messrs. Zierer (Jockey Club) by Egger.

The first electric lighting in railway cars in Vienna was applied on the Emperor Ferdinand's Northern Railway Company, for which Egger in 1878–'79, constructed a car which was provided with a complete steam motor and dynamo-machine, some coiled conducting material, and two lamps. This car is destined to be used at night at any place on the line where accidents have occurred, and on other necessary occasions. The initiative of this car emanated from Baron Eichler, the inspector-general, and it has already proved of good service both on the line and elsewhere. Besides other purposes it was used in 1879 to light under water during the laying of the foundation of the floating gate on the Danube Canal, where it gave great satisfaction.

The Southern Railroad in 1883 made a more extensive experiment by lighting a passenger car with electric light, which works its dynamo-machine from one of the revolving axles and keeps a constant light by the interposition of several De Calo accumulators. In 1880 Sedlaczek, at present in Vienna, constructed an electric locomotive head-light, which is well known from his exhibitions at Paris, Munich, and Vienna, and with which extensive and satisfactory trials were made.

As will be seen from the foregoing up to the present time no electric light has been introduced in Vienna for streets and public places nor for public buildings. However, it is now seriously planned to provide the Parliament house, opera house, and new Burg theater with electric light, although the lighting of the streets by electricity is not yet contemplated. The objects, however, are the largest of their kind. Each of them will require a working power of several hundred horses, the placing and working of which in these magnificent buildings will be attended with many difficulties.

In regard to the accumulators, which it is generally believed might do the work, there is yet too much uncertainty to justify their construction, particularly for such large establishments, and the possibility of erecting central stations where the electric current might be generated and transmitted to several distant objects as desired is even more problematical. The most appropriate thing no doubt would be to contruct one or more establishments for the generation of the current (Stromerzengungswerke) at a certain distance; but just in this regard all eyes are now directed to America. If there, where so many difficult problems have been brilliantly solved, the

transmission of the electric current at long distances can be practically accomplished we shall gratefully accept also this innovation.

In the foregoing *résumé* of the application of electricity for lighting purposes attention has been confined exclusively to Vienna, since to give a detailed account of all the experiments made in the Empire would require more time and space than would be profitable. The chief installations, however, in the Empire, outside of Vienna, will be found in the theaters of Prague, Brünn, and Budapesth. Besides these we would find a considerable number of manufactories and places of public resort lighted by electricity. But it is very remarkable that nowhere in the Empire are the streets definitively lighted by electricity.

CARL PFAFF.

VIENNA, *July* 25, 1884.

ELECTRIC LIGHTING IN LONDON.

REPORT BY CONSUL-GENERAL MERRITT.

Referring to your instructions No. 154, dated June 17, 1884, asking for authentic information in regard to the application of electricity for the purpose of lighting the streets and buildings of London, I beg in response to state that at my request Mr. T. Flood Page, secretary of the Edison and Swan Electric Light Company, limited, 57 Holborn Viaduct, furnished me with a full statement (herewith inclosed), which I am satisfied is substantially correct, and covers all that may be considered important in relation thereto.

E. A. MERRITT,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
London, July 15, 1884.

THE EDISON AND SWAN UNITED ELECTRIC LIGHT COMPANY, LIMITED,
57 *Holborn Viaduct, London, E. C., July* 12, 1884.

DEAR SIR: With reference to our interview of yesterday, I have much pleasure in enabling you to answer the questions put by your Government, and regret that I have not a more satisfactory account to give of electric lighting in England than what follows:

There are very few of the streets in London lighted by electricity. The Victoria Embankment, which has been lighted for over three years with arc lamps, is again lighted by gas. Holborn Viaduct has been lighted for upwards of two years by Edison incandescent lamps. The lighting is temporarily suspended, but will probably be resumed during the forthcoming winter. It cannot, however, be said that any street-lighting in London has yet advanced beyond the experimental stage.

As to public buildings—this company has lighted the House of Commons with marked success; the Holborn Restaurant, which is the finest restaurant in London; Messrs. A. & S. Gatti's restaurant, in the Strand, and the Criterion theater. I have no hesitation in saying that this last-named is the best display of electric lighting that can be seen in any theater in the world. A portion of the Waterloo Station of the London and Southwestern Railway has been lighted for over 18 months, and the Victoria Station of the London, Chatham and Dover Railway is about to be lighted shortly with Swan lamps.

The Edison and Swan incandescent lamps comprise at least nine-tenths of all the incandescence lighting in the United Kingdom.

The chief reason why no central station for the distribution of the electric light has yet been established in England on any considerable scale is owing to the obstacles placed in the way by the electric-lighting act of 1882, which governs the supply of electric light. The act in question requires the whole of the capital to be replaced in twenty-one years or entirely lost. The local authorities are entitled to take the central stations from the companies any time after twenty-one years without paying anything for the good-will of the business. It is a well known fact that electric light used only for a few hours daily is more expensive than gas in this country, and that the only installations in which the light will cost less than gas are those in which it is

used for a considerable number of hours daily throughout the year. Notwithstanding this, the electric-lighting act requires a company having a central station to supply every customer within the area in which their mains are laid, even although they may only use the light on an average of an hour a day.

There are many other difficulties thrown in the way of the electric-lighting companies by this act, but these I need not further allude to.

The only place in which electric lighting has as yet taken a firm hold in this country is that of ship-lighting. The Edison and Swan Company have themselves fitted upwards of fifty vessels, including six for Her Majesty's navy, with their incandescent lamps. The advantages of this method of lighting on board ship, both from a sanitary and from an economical point of view, are so obvious that no first-class ocean-going steamer is now considered complete unless lighted by incandescent lamps.

I trust that the foregoing hurried sketch may serve your purpose, and

I am, dear sir, yours, faithfully,

T. FLOOD PAGE,
Secretary.

THE APPLICATION OF THE ELECTRIC LIGHT IN BERLIN.

REPORT BY VICE-CONSUL-GENERAL SMITH.

Within the last decade the German people have made the most wonderful and rapid progress in mechanical engineering in all its branches. This is evidenced not only by the well-constructed buildings, splendid streets, tramways, railroads, bridges, and the like to be seen on every hand, but also by the numerous inventions made in every field where mechanical genius can find application. These inventions are patented not only in Germany, but in every European country and in the United States. As evidence of this activity in inventing we can cite the fact that at this office alone we have an approximate average of one application for grant of letters patent daily throughout the year. Within the period from June 30, 1883, to June 30, 1884, there had been two hundred and twelve such applications made.

One of the explanations of the fact that our professional men in America, and especially our engineers, do not attain the same prominence in their professions as foreigners in the same professions who are perhaps in point of genius and natural ability greatly inferior to them, is the fact that our young men hasten into the study and practice of their profession before they have attained a thorough knowledge of those elements that alone constitute a good basis for a professional education. Hence the fact that often our lawyers, doctors, and engineers are often so deplorably ignorant of their own language, a fact so much to be lamented. In our system of education in America there seems to be a tendency to separate theory from practice, as if they were fundamentally opposed. Hence, as almost all of us may have observed, our professors of astronomy are often not practical astronomers and our professors of engineering are seldom engineers, or, to speak more generally, our professors in professional branches are seldom men who have attained eminence in the practice of their professions. Neither of these evils is to be found in the German system of education, and it is in this that its superiority over systems of other countries consists. Young men must give proof that they have received a thorough elementary education before they are allowed to begin the study of a profession, and are compelled to stand a most rigorous examination before a committee appointed by the Government before they can enter upon its practice. Further, the leading scientific men in Germany, such as Siemens, Hoffmann, and Rouleaux, are actively engaged in the practical ap-

plication of their sciences, while at the same time they are serving their country as counselors of state and as professors in the universities.

In no branch of enginering is a knowledge of the theory upon which the practice is based more necessary than in electrical engineering, and in no profession is so much dilettanteism to be found. This is of course to be partially explained by the fact that electrical engineering is still in an imperfect state of development.

In the field of applied electricity the Germans have long been actively at work, and though the results of their labor are not as generally known as those of our American electricians, still they are of the most enormous importance and offer on every hand the most active opposition to the extension of American and English patents. In the competition, which upon investigation is found to be very active, between foreign and domestic companies in Germany the Germans seem to hold their own.

The city of Berlin up to the present time has adopted no permanent system of electric lights for its streets. One would think that the authorities of the city were very slow in utilizing this great force for illuminating its streets, especially when we consider the fact that Germany has been foremost among European States in its labors in this field. In reference to this point Baron von Hefner-Alteneck, one of the most prominent electrical engineers in Germany, in a speech made before the "Electrotechnical Association" in October, 1882, says:

> If, on the one hand, numerous complaints have been made that through the above-mentioned treatment of the proposition on the part of the Berlin authorities the city came into possession of a system of electric lights for its streets later than other cities, and especially later than the activity shown in electrotechnical matters should have warranted, still, on the other hand, we must acknowledge that the delay thus caused has proven of great benefit, because many small improvements in the lighting apparatus have been made. Although Paris has the merit of having made the first advances in this field, still when we compare the actual condition of electric illumination here and there, it is indisputable that Berlin has the better illumination.

The electrical industry in Germany is now chiefly in the hands of two companies, Siemens & Halske (German); German Edison Company "for applied electricity;" the Brush Company (English), now about to be organized.

The first attempt to bring the advantages of the electric light before the Berlin public was made during the Industrial Exhibition in 1879. It was the illumination of the so-called Imperial Gallery (Kaiser Gallerie), executed by the firm Siemens & Halske with brilliant success. It was the first application of the divided arc lights with differential adjustment. It was here that the wick carbons manufactured by the firm of Siemens Bros. & Co., of Charlottenburg, were used for the first time and proved so excellent that they have since come into general use. Such was the success of the differential lamp in this experiment that at the Paris Electric Exhibition in 1881 the arc lamp, chiefly employed for the illumination, was essentially the same in form and principle as the "differential lamp." To-day thousands of differential lamps are in use and the amount of "wick carbon" consumed annually must be reckoned in hundreds of miles, supplied solely by the firm Siemens & Halske.

On the 10th of August, 1880, one of the most important squares in Berlin, Pariser Platz, Unter den Linden, was for the sake of experiment illuminated with electricity. The result was entirely satisfactory, and though electricity was not employed to light this important square permanently, still the city authorities were compelled to increase the gas supply for the Platz, probably fourfold, to satisfy the public.

About the beginning of the year 1881 a plan was proposed for illuminating the square before the Emperor's palace with electricity. This was rejected by the city authorities on the ground that a square upon which His Majesty's residence is situated was not adapted to trying experiments in electricity. For the present, then, the project was given up.

In 1882 the firm Siemens & Halske made an experiment in an important street, the Koch Strasse, with the incandescent light, extending from May 15 to September 15. This was the first experiment with the incandescent light on the Continent. It was carried out by the said firm at their own expense for the purpose of testing their incandescent lamp, and is said to have been satisfactory. In the beginning of the year 1883 an experiment was made with the incandescent lamp in the important street Wilhelm Strasse, which is understood to have been the Edison patent.

The most important of all the experiments in electric lights in Berlin is the one executed under contract, commencing from September 20, 1882, between the city authorities and the firm Siemens & Halske. Upon the rejection of the plan for illuminating the square before the Emperor's palace the authorities suggested that the square known as Potsdamer Platz and Königgrätzer street be chosen for carrying out the experiment. Siemens & Halske adopted this suggestion in part, but substituted for the Königgrätzer street the Leipziger street, one of the handsomest and busiest streets in Berlin, which runs from the Potsdamer square towards the center of the city, and a contract was concluded between the city and the said firm for this purpose.

On the 20th September, 1882, Siemens & Halske entered upon the fulfillment of the terms agreed upon. The Potsdamer Platz and a specified portion of the Leipziger street were to be illuminated with a certain number of electric lamps every day in the year for a specified number of hours. For every hour in which the lamps failed to act within the time agreed upon, Siemens & Halske were to pay 10 cents per lamp. Said firm received from the city by way of compensation the sum of 26,040 marks ($6,197.52). If the experiment should prove satisfactory the contract could be extended another year on the same terms.

The portion of the Leipziger street lighted by electricity is 847 yards long and about 23 yards wide. The lamps are about 75 yards apart and are 5½ yards high. Each lamp demands a force of 1 horse-power. Potsdamer square is illuminated by eleven similar lamps. During the first year of the experiment gas motors were used as motive force. The engine-house is 350 yards distant from the nearest lamp. The construction of the machines and the conveniences of adjustment of the same are said to be most excellent, as the practical results prove. The peculiar construction of the cable deserves special attention. The core of the cable consists of a copper wire 3.4 millimeters in diameter, wrapped with jute, which is saturated with a resinous substance according to a patented process of Siemens & Halske. This combination is then covered with a coating of pressed lead and the whole again wrapped with tarred jute. To protect the cable against injuries it is laid in brick piping or casing.

This cable is said to commend itself highly on account of its thorough insulation, its capacity for resisting influences of temperature and external forces in general, and especially on account of its cheapness.

A comparison made by Baron von Hefuer-Atteneck, in the address referred to above, between the cost of the electric light and gas based

upon this experiment in the Leipziger street gave the following results. Taking the space illuminated, by one electric light, or three gas lamps, as unity, on the basis of 13.3 pfeennings (3.1 cents) pro cubic meter for gas, the cost of illuminating this space per hour is as follows:

GAS.

Kind of lamp used.	Cost per hour.	Intensity of light in standard candles.
	Dollars.	
Frits Siemen's regenerating burners	.076	360
Lacarrière burners	.114	315
Bray burners	.114	315
Electricity burners	.090	880

This comparison is, if anything, greatly to the disadvantage of the electric light, because, as remarked above, as far as the electric light is concerned it is based upon a mere experiment, and the electricity if demanded in greater quantities could be supplied for less money. Then the brilliancy of the electric light is not taken into account in the comparison of values.

The success of the experiment in the Leipziger street proved greater than was to be expected. In the first year only one interruption occurred, extending over nine hours and affecting twelve lamps.

In an address made by Baron von Heffuer-Atteneck before the Electrotechnical Association, in January of this year, after making reference to the unfortunate exaggeration of which so many dilettanti are guilty, when speaking of the possibiliti iof electricity, he declares that, in his opinion, one of the most potent causes for the slow progress of electric light is to be found in the numerous electrical exhibitions, citing in proof of his assertion the present condition of electrotechnics in Paris, Munich, and Vienna, where the most important exhibitions have taken place, and in which cities the electric industry now seems to be in a state of stagnation. He then continues:

Look, gentlemen, to America, a land which has not as yet enjoyed the doubtful privilege of having an international electric exhibition. It so happens that in this year very many Germans have been to America, and further toward the interior than is usual, and all report that the electric light, and especially the arc light, has met with the most wonderful success, and that not only in New York, but in general in the small growing cities the arc light is everywhere to be seen. These eye-witnesses report unanimously also that the arc light in America does not possess by far the uniformity, and certainty in its action of that of the electric light in Germany, especially in Berlin in the Leipziger street.

The speaker then declares that in spite of the fact that the electric lighting of streets was first attempted on the European Continent, and that the method of generating the light by arc lamps on the differential plan was accomplished in Berlin sooner than in America, the cause of the fact that the lamp has found so little application in Germany cannot be found in any lack of its perfection from a technical stand-point.

I have stated above that up to the present date the electric light interests in Berlin have been almost exclusively in the hands of the firms Siemens & Halske, and more recently the German Edison Company for applied electricity. I have shown to some extent the activity of the former firm, so now I pass to the Edison Company. This company was formed in the year 1883, under contract with the Continental Edison

Company of Paris and the company Siemens & Halske. The object of this company, as declared by their statutes, title 1, § 3, is:

The industrial utilization in every manner of the Imperial German patents granted Thomas Alva Edison in New York, inclusive of the patents on improvements or additions to the same, relative to measurement, division, and application of electricity for lighting and transmission of power;
2d. Of all inventions relating to illumination of arc light.

For the incandescent lighting the company may use only the Edison system, for arc light illumination any system at will.

The German Edison Company entered upon its activity on the 5th of May, 1883.

From the 5th of May up to December the 31st the company completed 27 electrical light arrangements and constructed and put up 33 machines. Among these there were machine, sugar, paper, and cloth manufactories and mills, business houses, and restaurants. Farther, two theaters in Munich and a small central station supplying the Union Club in this city.

There are now in Germany, under the protection of patents, 138 dynamo machines with more than 12,000 lamps in operation. In their report for the first business year the directors speak most sanguinely. Within six months they had sold 25,000 lamps and could have had orders for a great many more had not considerations of prudence made it advisable to limit the sale somewhat. On the 24th day of January, 1884, a contract was made between the city authorities of Berlin and the German Edison Company for the illumination of a district of the city with electricity.

The company has already entered upon the fulfillment of the terms of the contract by forming a subordinate local company, which is to be intrusted with the undertaking. Since the conclusion of this contract with Berlin other cities have made proposals to the company for electric lights, so the company seems justified in feeling sanguine, especially as the company has been so short a time in existence. Among the most important electric systems carried out by the Edison Company this year may be mentioned that on the express steamer Werra, of the North German Lloyd, that on the Chinese iron-clad, Chin Guen, and that in the Royal Observatory at Spandau. Besides these, many arrangements are now in course of execution, one of the chief of which is the one in the Café Bauer, on the Unter-den-Linden, a well known fashionable café, frequented by the most fashionable people in Berlin. Wherever one turns in Berlin the electric light is seen in some shape or form.

The handsome railroad stations are lighted almost exclusively with electricity, the largest hotels and places of business, the popular gardens and theaters are beautified and rendered attractive by this popular form of light. The handsome grounds which were devoted last year to the hygienic exhibition have now been rented for a term of years to Bauer, the proprietor of the Café Bauer above refered to, and the English Brush Company, which is, as above remarked, now being organized, has been intrusted with the electric illumination of the same. It is now the most popular resort for concert music in the city.

E. HARRISON SMITH,
Vice Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, August 4, 1884.

ELECTRIC LOCOMOTIVE HEAD-LIGHTS.

REPORT BY CONSUL-GENERAL WEAVER, OF VIENNA.

(*Republished from Consular Report No.* 32.)

Recent experiments with Sedlaczek's electric locomotive head-light on the Western Railway have been pronounced by the public prints so successful that I beg to transmit herewith a few items in regard thereto, which may prove of interest to our American specialists.

The conception of illuminating the railroad track by means of an electric light attached to the head of the locomotive has long since ceased to be a novelty in railway engineering, while the advantages to be derived therefrom, if successfully accomplished, have furnished sufficient spur to urge inventors to the greatest possible researches and endeavors.

Success, however, has been rendered very difficult from the fact that the oscillations and jars of the engine while in motion soon destroyed the delicate apparatus of the best electric lights known, and that a cheap and convenient method of generating the electric current not immediately dependent on the continuous movement of the locomotive proved difficult to obtain. In 1881 Mr. Sedlaczek, chief of the telegraphic service at Leoben, in Austria, aided by Mr. Schuckert, of Nuremberg, after six years of trial succeeded in obtaining, it is affirmed, these two great desiderata, first by adopting as generator a Gramme machine with a Brotherhood motor furnished with an automatic regulator, having likewise attached thereto a Schuckert dynamo-electric machine. To obtain sufficient current required from 700 to 800 revolutions of the electric motor, demanding about 3 horse-power, being less than 2 per cent. of the force of the locomotive; and, second, the light was procured by a Sedlaczek lamp, invented specially for the purpose, having a force of 500 carcel jets. The electric machine was placed on the boiler, just behind the smokestack, and brought under the immediate control of the engineer.

The first experiments took place in September of 1881, between Leoben and Judenburg, on the "Kronprinz-Rudolf Bahn," a distance of 50 kilometers, with great success, it is affirmed; to the end that the road for a kilometer before the locomotive was rendered light as day. The white signals were marvelously brought out upon the black background, and the lamps and lights appeared like yellowish points. The same experiments tried last October between Munich and Diesenhofen, of the Munich-Salzburg line, resulted in even greater success, as may be seen from the official certificate of the president and secretary of the commission of experts named by the Munich Electric Exhibition, a copy of whose translation accompanies this communication.

Another opportunity of examination and experimentation will be afforded, doubtless, at the coming International Electric Exhibition which opens at Vienna on the 1st of September next.

JAMES RILEY WEAVER,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Vienna, May 19, 1883.

ABOUT ELECTRIC LOCOMOTIVE HEAD-LIGHTS.

[Translation of an article appearing in the "Centralblatt fur Eirenbaknen and Dampfschiffarth, Vienna, April 12, 1883.]

(Certificate for Mr. Herrman Sedlaczek, engineer, of Vienna.)

In the evening of October 4, 1882, between six and nine o'clock, a trial was made on the part of the railroad Munich-Deisenhofen (line from Munich to Salzburg) of the locomotive head-light exhibited by Schuckert, on the system Sedlaczek.

The sky during the time the trial took place was completely overcast with clouds in such manner that the light of the lamp received no support from the moon or the stars; on the contrary, it is to be supposed that the rain which set in during the trial somewhat lessened the effect of brilliancy.

The locomotive lamp burned with perfect uniformity; disturbances caused by the swaying to and fro of the locomotive could not be noticed. When on a curve the lamp turned of its own accord, thereby lighting the track just as effectually as on a straight line.

Objects in immediate proximity to the road, as well as the different colors and forms of the signals, could be plainly distinguished from the locomotive at a distance of 250 meters; at a distance above 250 meters the road was still sufficiently illuminated to recognize greater objects on the road.

On passing stations the position of the switches could be easily seen. At a distance of 250 meters from the lamp small print could be read without difficulty; at that distance, about 15 meters along side both tracks of the road were yet lighted.

At a distance of 1,500 meters from the locomotive head-light a drawing on white paper could still be seen, while without that light there was perfect darkness.

The electric light of the lamp is visible at a distance of at least four kilometers.

The board of examiners for electro-technical trials at the Royal Crystal Palace in Munich:

The secretary:
OSKAR V. MEELER.
The president: DR. v. BEETZ.

COMMERCE OF SAN JUAN, PORTO RICO.

REPORT OF CONSUL CONROY.

Herewith I have the honor to submmit my commercial report for the district of this consulate for the fiscal year ending June 30, 1884. As far as it has been practicable to obtain said statistics and information they can be relied on; still, I regret that I am unable to transmit a more general account of the navigation and commerce, but in spite of my exertions I have found it impossible, caused by the reluctance of the custom-house authorities to communicate any intelligence on these subjects.

EXPORTS.

Sugar, 9,163,803 kilos, value, $595,647.19; molasses, value, $34,672.15; hides, coffee, rum, and tobacco, are mostly exported to Europe.

IMPORTS.

Flour, 2,336,053 kilos, valued at $298,089.36; lard, 336,583 kilos, value $74,048.70; pork and bacon, value, $72,470.14. These are the staple imports. The whole value of imports amounts to $578,250.45—all products of the United States.

DUTIES.

The treasury returns of the amount of duties paid into the custom-house at this capital during the fiscal year, show that on importations

there has been received $831,679, and on exports $49,456, and that the entire amount of duties received at the ports of the island has been importations (total) $2,252,081, and for exportations (total) $289,479.67.

MONEY MATTERS.

Mexican dollars, half dollars, and quarters, is the only coin in circulation, excepting, as is computed, some thirty to thirty-five thousand dollars in United States silver coin, consisting of half dollars, quarters, ten-cent and five-cent pieces, the native shop-keepers have by disfiguring and punching holes in said coins, caused it become provincial; it is very convenient in the way of change, as it passes for its face value, and cannot be exported without loss. There is no gold coin in circulation. Mexican dollars are by royal decree current in the way of trade for 20 reals vellon, but are at from 15 per cent. to 17 per cent. discount when tendered for bills of exchange on the United States.

EXCHANGE.

The banking bill business is almost exclusively done with London and Paris. Bills of exchange have been for the last four months very high, and continue to be so. Bills are generally drawn at ninety days' sight, and are now only obtainable at from $5.65 to $5.70 pound sterling, on the United States thirty and sixty days sight bills command 15 to 1.½ per cent. premium. The exchange on Europe has been held so high it has been found to the interest of those that have had to make remittances to ship Mexican dollars, so within the last two months over $500,000 have been exported from this capital alone. Should this state of financial affairs continue it is hard to surmise what coin will be put in circulation for our every-day wants.

NAVIGATION.

I am pleased to report that the "commercial agreement" for the "improvement of the mercantile relations between the United States and the Island of Cuba and Porto Rico," that took effect on the 1st March last past, has already caused a very great benefit to American tonnage, whereas during the four past months there has arrived direct from ports in the United States (not only at this capital, but at nearly all the other ports in the island), more American vessels with full cargoes, products of the United States, than there had arrived during the entire twelve months previous to the said commercial agreement. It is predicted that the Atlas line of Spanish steamers will soon be withdrawn, as shippers prefer shipping by American sailing vessels, the duties on their goods being the same as if imported under the Spanish national flag. We have no direct steam communication homeward with the United States. The Atlas line of steamers, after making their calls at the different ports in this island, return via ports in Jamaica. There are two lines of steamers between Liverpool and this, under the Spanish flag. Their cargoes consist principally of rice, crockery in crates, machinery, dry goods, and beer. It is incredible the quantity of rice that is imported and consumed in this province; the cultivation of said plant has been abandoned in the island on account of the very low price of the imported article. There are also quite a number of Spanish steamers, monthly, from Barcelona and ports in the Mediterranean; their cargoes consist principally of Spanish low-priced red wines, dry goods, and

shoes of Catalan manufacture, Spanish writing paper, garlic, potatoes, and onions. Most of these steamers return to Spain with cargoes of cotton, grain, or petroleum, via the United States. We are dependent almost entirely on the Spanish Lopez line of mail steamers, that call here on the 4th, 14th, and 24th of each month, for the transmission of our correspondence to the United States via Havana; these are all splendid ships, from 4,000 to 5,000 tons, receive a large subsidy from the Government at Madrid, and also receive from this province and the Island of Cuba a monthly subsidy for conveying the mails.

TRADE AND INDUSTRY.

Last year's sugar crop was very good, and prices throughout the season from October, 1882, to August, 1883, were so very encouraging that the planters not only improved their engines and machinery and planted more cane, but also encouraged all the small land-owners and laborers that could hire land near their estates to cultivate cane (to be ground as customary here on halves). So the present crop of sweets has been the largest, not only in this district but throughout the island, that has been known for a number of years. I regret to state that notwithstanding the large amount yielded, the unprecedented low price of sugar and molasses has caused great losses and so discouraged the planters that many estates will be abandoned. Sugars, the market price of which was $4.50 to $4.75 last crop, have been sold at from $2.40 to $2.62½. Molasses will not pay for transportation, and is being made into rum. It is feared that there will be very distressing hard times in the entire province; a commercial crisis and panic seems to be hanging over the island; for the last two weeks not a hogshead of sugar has changed hands. Planters are without means to pay laborers to get in the remainder of this year's crop. Money is very scarce, and altogether I fear that this beautiful island will even be reduced to great misery and distress.

POPULATION.

There has been no official census published since 1879, in the month of June; at that date the number of inhabitants in the province reached 738,442—415,523 whites and 329,919 colored, classified as follows:

White:	
Males	215,545
Females	202,979
Colored:	
Males	160,963
Females	161,956
Married (whites):	
Males	53,311
Females	52,256
Total white married	105,567
Married (colored):	
Males	35,977
Females	35,607

Foreigners residing in the island are classified as follows:

White:	
Males	2,256
Females	1,419
Colored:	
Males	2,396
Females	2,225

The colored residents are mostly natives of the British West India Islands and Danish possessions; the males find employment on sugar plantations mostly, and the females as servants in private families.

PUBLIC INSTRUCTION.

By referring to statements on this subject, the number of schools supported by the municipalities of the province are 398 for males and 115 for females, for which the yearly expenditure is reported to be $267,000; there are also 18 schools for males and 21 for females, supported by fathers of families, where 1,227 males and females are educated at a cost of about $71,000.

CENTRAL SUGAR FACTORIES.

There are but two in this district, one of which is provided with the very best of machinery ever turned out of the West Point foundry, New York. The probability is that they will be followed by others, as the very low prices of Muscovado sugar has opened the eyes of the planters, and in many instances they are persuaded that they will be obliged to introduce improvements or abandon the culture of their cane estates.

RAILROAD.

The only one in this island run by locomotives is in this district, the property of a private gentleman of this capital, and without any Government subvention. It begins at this capital and runs to Rio Piedras, a small summer resort, 8 miles distant. It is well patronized, and is paying so well it is to be extended some 12 miles, to the town of Carolina. The owner has had great difficulties put in his way by the Government engineers, and only by visiting Madrid was he enabled to obtain permission to build two iron bridges and to carry out thus far his railroad undertaking. The locomotives are of American manufacture, rails, cars, &c.

EDWARD CONROY,
Consul.

UNITED STATES CONSULATE,
San Juan, Porto Rico, August 10, 1884.

WHEAT MARKETS OF EUROPE.

REPORT BY CONSUL-GENERAL CRAMER, OF BERNE, ON THE WHEAT MARKETS OF EUROPE AS INFLUENCED BY THE WHEAT PRODUCTION OF THE UNITED STATES.

It becomes more and more evident that on account of the frequent occurrence of so-called "corners in wheat" in Chicago and New York the price of this, our export article in Europe, is kept not only fluctuating but increasing. The consequence thereof is that England, Germany, Switzerland, &c., that is, those countries which are obliged to import wheat for home consumption, look about for different markets from which to draw their supplies. Southern Russia, Hungary, and East India are already sending large quantities of wheat to the countries just named. For instance, there were imported into Switzerland during the month of July last about 35,546 sacks of wheat by way of Genoa alone, of which

10,746 sacks were from India and 14,800 from Russia, and only a small portion of the whole amount is from the United States. But Genoa is not the only place through which wheat from foreign countries is passing into Switzerland: Havre, Antwerp, and warehouses at different points on Lake Constance—these are places through which wheat is also shipped to Switzerland. Several years ago the largest amount of wheat annually imported into this country came from the United States; now only about one-third of the whole amount imported comes from our country. The reason thereof is that on account of the "wheat-corners" and high cost of transportation in our country the price of our wheat has been increased, while the quantity of wheat grown in Southern Russia, Hungary, and India has been during the past few years greatly increased, and the prices of through-freight decreased. Our wheat-growers, transportation companies, and dealers in that article desire to realize large profits, which greatly enhances the price of our wheat by the time it reaches the European markets, while the Russian, Hungarian, and Indian wheat-growers, and the various transportation companies carrying the wheat from these countries are satisfied with a comparatively small profit, so long as their article finds a ready market. It is in this manner that American wheat has to contend with a heavy competition in Switzerland if not in all Europe. The various railroad and steamship companies of Europe that carry this article are now considering the question of a still greater reduction of the through-freight tariff on wheat from the countries above referred to. If they succeed it will furnish a new impetus to the wheat-growers thereof to constantly enlarge their wheat culture. Hence there is danger that we will produce more wheat than can be disposed of unless the original prices and the cost of transportation thereof are reduced. The wheat harvests of this year in Europe and India have been exceptionally good. It has been calculated that unless American wheat can be sold in Liverpool and Havre at $1 per bushel it will be displaced by European and Indian wheat. Thus our wheat-producing capacity and export will receive a sudden check which cannot fail to bring about much suffering if not many failures in our own country. Let those who are interested in this matter take timely notice thereof.

M. J. CRAMER,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berne, August 23, 1884.

HARVESTS OF AUSTRIA-HUNGARY.

REPORT BY CONSUL-GENERAL WEAVER, OF VIENNA.

I have been carefully noting for many weeks all items published in regard to the present crops of this Empire, and have also requested from the Agricultural Department of Austria such information in the shape of circulars as they might be able to furnish, but as yet the best that could be procured was only general statements that the crops would be fair, middling, good average, &c., without any specific data, as I had hoped.

The harvests have now begun in both halves of the Austro-Hungarian Empire, and the weather is exceptionally good, so that the grain will be well secured, and if the threshing does not reveal some unlooked-for shortage as to the quantity and quality of the grain, the present grain crops of this empire may be set down at about an average crop all round. The late frosts, rust and overflooding during the early summer damaged the crops somewhat, not only in Austria but in Hungary, and at one time great apprehension was entertained lest the present harvests would turn out disastrously, which in view of the short crops of 1883 would have been a great calamity to this country.

It may be useful in this connection to give a *résumé* of the grain productions of this country and the exports of wheat, from which it may be judged as to what the movement of grain may be during the coming year.

The average acreage and production of grain in Austria-Hungary during 1871–'80, given in millions of acres and bushels, was as follows:

Grain.	Austria.		Hungary.		Total.	
	Acres.	*Bushels.*	*Acres.*	*Bushels.*	*Acres.*	*Bushels.*
Wheat	2.36	36.42	5.68	60.87	8.04	97.30
Rye	4.55	69.98	3.08	31.67	7.63	101.65
Maize	.83	16.97	5.25	60.94	5.08	77.91
Millet, spelt	.23	3.15	.73	7.91	.96	11.06
Maslin						
Oats	4.44	87.99	2.63	41.84	7.07	129.83
Barley	2.67	45.55	2.34	34.21	5.01	79.76
Buckwheat	.42	7.75	08	.40	.50	8.15
Total millions	15.50	267.82	18.79	237.84	34.29	505.667

It should be noted that the total of 97,000,000 bushels of wheat for the whole empire is frequently largely surpassed.

In 1882, an exceptional year, the wheat crop of Austria was given at 55,000,000 bushels, and that of Hungary at 99,000,000, being 154,000,000 bushels or 69 per cent. over the average. From accounts it would appear that 1884 will produce about 100,000,000 bushels of wheat. The movement of wheat in the whole empire during the last thirteen years and three months was as follows:

Period.	Imports.	Exports.	Balance
	Bushels.	*Bushels.*	*Bushels.*
Average for 1871–'80	5, 695, 600	6, 607, 000	911, 400
Year 1881	9, 054, 763	11, 903, 518	2, 848, 755
Year 1882	8, 418, 934	14, 449, 223	6, 030, 289
Year 1883	6, 044, 350	10, 450, 876	4, 406, 526
First quarter 1884	759, 055	839, 520	80, 465

It would therefore appear that during the period embraced in the foregoing table, the excess of exports over imports was 22,480,000 bushels, being an average of 1,700,000 bushels annually. It is therefore possible that during the coming year this empire will be able to export about 2,000,000 bushels of wheat. The quantity of barley and oats will be greater than that of wheat, while of rye and maize there

will be insufficient to meet the demands by possibly one and four million bushels respectively. On the contrary the exports of flour surpass the imports by from 80,000 to 100,000 tons.

JAMES RILEY WEAVER,
Consul-General.

UNITED STATES CONSULATE GENERAL,
Vienna, July 14, 1884.

INTERNATIONAL GRAIN MARKET OF VIENNA.

REPORT BY CONSUL-GENERAL WEAVER.

The twelfth annual session of the International Grain Market of Vienna was held in this city on the 25th and 26th instants. Although numerously attended by Austrian grain merchants, the absence of foreigners to an unusual degree was frequently remarked and commented upon. This fact accounts mainly for the absence of large transactions which formerly took place at these meetings, the sales being confined almost exclusively to merchants resident in the Empire, although it is affirmed that part of the transactions took place for purposes of exportation. In general, however, the meeting closed unsatisfactorily, and with less animation and transactions than at any former session. This was owing, it is affirmed, to the depressed condition of the grain market, as at present the prices are generally depressed, there being little or no demand at even any price. The cause is thought to be largely the determination of American grain merchants, who have been holding large quantities in reserve for higher prices, now to let go their stock at any price, seeing that the crop of wheat in the United States is estimated for 1884 at 500,000,000 bushels, against 421,000,000 in 1883. The effective sales, however, concluded during the market aggregated 85,000 metrical centners* of wheat, and 130,000 metrical centners of rye; while the sales for delivery at fixed future dates aggregated 1,000,000 metrical centners wheat, 200,000 oats, 150,000 rye, and 150,000 maize. The closing price for spring deliveries of wheat was 8.60 florins per metrical centner.

CEREAL CROPS OF AUSTRIA-HUNGARY.

From the reports read at the several sessions of the assembly it would appear that the harvests of Austria-Hungary for 1884 were only very slightly over an average, viz: 1,000,000 hectoliters of wheat in Hungary, and 500,000 in Austria over the average. But the quality of the grain is even less satisfactory than the quantity, as in many cases the wheat was caught by the rust at its filling period. While the rye manifests a less favorable condition as to quantity, being for the Empire about 750,000 hectoliters short of an average crop, the quality, being very good, will compensate for the decrease in quantity. In respect to barley and maize, they will amount to an average crop or a little over, but the quality of the former leaves much to be desired. The exports, therefore, cannot be great, being estimated as follows: wheat and flour, 3,000,000 metrical centners; barley and malt, 4,000,000 metrical centners; oats, 2,000,000 metrical centners, and rye, nothing at all.

*One metrical centner = 220.46 pounds avoirdupois.

CEREAL CROPS OF EUROPE.

The following table presents the condition of the crops in Europe for 1884, prepared from the various reports presented to the association, given in percentage of an average crop estimated at 100:

Countries.	Wheat.	Rye.	Barley.	Oats.	Countries.	Wheat.	Rye.	Barley.	Oats.
Austria	103	99	104	107	Russia:				
Hungary	104	98	103	106	Esthland	80	65	85	90
Prussia	97	96	100	100	Central	100	65	65	95
Saxony	110	95	100	115	Podolia	100	80	70	110
Bavaria:					Bessarabia:				
Franconia and Swabia	107	101	113	115	North half	125	130	130	150
Upper and Lower	105	100	105	85	South half	25	...	...	...
Pfalz and Wetterau	90	65	120	85	Cherson and Jekaterinoslav:	100	90	95	105
Baden	90	60	100	100	Winter wheat	85	...	...	...
Wurtemberg:					Spring wheat	...	...	...	...
Winter wheat	99	89	107	93	Northern	90	80	63	95
Spring wheat	93	...	...	...	Poland	115	110	...	...
Mecklenburg	105	110	105	105	Kurland	100	110	85	85
Denmark	100	105	80	60	Roumania:				
Norway and Sweden	105	105	102	102	Moldavia	125	105	115	110
Italy:					Copurlin and Jutova	60	62	69	65
Southern	78	...	66	65	Little	100	60	42	...
Northern	80	60	...	60	Districts Doljin, Olt, Romanatz and Velcea	112	102	100	122
Eastern	100	...	...	60	District Arges, &c	100	110	100	120
Central	80	70	...	60	District Ilfou	100	100	100	100
Switzerland	80	60	90	80	District Blasca	35	...	110	...
Holland	95	95	98	95	Servia	150	140	110	105
France	95	80	...	...	Egypt	100	...	...	...
Great Britain and Ireland	105	...	98	94	India*	...	...	...	...

*Eighty per cent. of previous year's harvest.

It is a noteworthy fact that while the crops of 1882 throughout Europe greatly surpassed those of 1884, the prices, particularly of wheat, should show at present such decrease when compared with 1882. For example, the wheat crop of Austria is given at 111 per cent. in 1882, against 103 per cent. in 1884, and that of Hungary at 157 per cent. in 1882, against 104 in 1884; but the price of wheat in Vienna fell from 9.15 florins in 1882 to 7.70 florins in 1884, per 100 kilograms. The explanation is given, that previous to the harvest of 1882 the stock in hand was quite exhausted, while at present the surplus remaining from last year's crop is yet very large.

Before closing its labors the association passed a series of resolutions appealing to the Austrian Government to make through the proper diplomatic channels all possible efforts to induce other nations to adopt the metric system of weights and measures, and such usages and regulations for grain exchanges as would simplify and render uniform an international trade, viz, that the unit of measure should be weight and not capacity, and suggesting the metrical centner of 100 kilograms as the most convenient international unit for trade.

CEREAL CROPS OF HUNGARY.

The following more definite statistics relative to the crops in Hungary for the present harvest have just been made public by the Ministry of Commerce at Buda-Pesth.

Wheat acreage, 4,781,151 yoch*; crop, 28,722,844 metrical centners; rye and maslin, 2,265,666 yoch; crop, 12,738,462 metrical centners. Bar-

*1 Hungarian yoch=0.4316 hectare, or 1.183 acres.

ley, 1,729,847 yoch; crop, 10,554,828 metrical centners. Oats, 1,725,311 yoch; crop, 9,149,780 metrical centners. When compared with 1882 and 1883 we obtain the following comparative table giving the quantities in metrical centners:

Grain.	1884.	1883.	1882.
	Met. cent.	*Met. cent.*	*Met. cent.*
Wheat	28, 722, 844	24, 889, 011	37, 144, 497
Rye and maslin	12, 738, 462	12, 058, 554	15, 537, 860
Barley	10, 554, 828	8, 586, 158	12, 982, 911
Oats	9, 149, 780	7, 061, 124	9, 328, 324
Total metrical centners	61, 165, 914	52, 594, 847	74, 993, 592

JAMES RILEY WEAVER,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Vienna, August 27, 1884.

GRAIN ELEVATOR AT FLEETWOOD, ENGLAND.

REPORT BY CONSUL SHAW, OF MANCHESTER.

FLEETWOOD HARBOR IMPROVEMENT.

The considerable improvements which have been made by the Lancashire and Yorkshire Railway Company to the entrance and harbor at Fleetwood, deserve special mention on account of their public importance to commercial interest in the United States. Large sums of money have here been expended in erecting a commodious dock, with every modern improvement, and one of the most perfect grain elevators to be found anywhere.

While the capacity of the approaches to the dock, and the accommodation for commerce are now somewhat limited at this point, it is the policy of the Lancashire and Yorkshire Railway Company managers to keep abreast of any future requirements of ocean trade at the port of Fleetwood. The harbor is easy of access, and there is no good reason why large quantities of American cotton, grain, and other products cannot be landed at this port at a no inconsiderable saving in "costs and charges" to the shippers; and it is an excellent distributing point. Fleetwood is a well known port on the Lancashire coast, and recent improvements have brought it into prominence. There are eight steam cranes located on the quay, and the shed area covers a space of 15,867 square yards. In fact, every provision has been made for the rapid and economical discharge of cargo, and for the security and prompt distribution of the same by rail to interior points.

At the entrance to the harbor there is fixed a screw-pile light-house, with a fixed bright light seen 8 or 10 miles in clear weather. There are also two fixed shore lights which are lighted from half flood to half ebb. By day a black ball is hoisted on a pole indicating the same interval of tide. There is very good anchorage ground in the lune deeps just outside the screw-pile light where vessels can ride whilst waiting for the tide to get in the harbor. The minimum water at the mooring buoys in Canshe

hole is 18 feet at ordinary spring tides, and 22 feet at ordinary neap tides.

There are five steam-tugs belonging to the harbor, three of which are twin screws, viz: The Fylde, 700 horse-power combined, Wardleys and Brock, each 350 horse-power combined. The Wyre and Jabez Bunting are paddle tugs.

The length of the channel from the light-house to the dock gates is about 2 miles. The dock is 1,000 feet long and 400 feet wide, making an area of 10 acres. The lock is 250 feet long and 50 feet wide. Depth of water on dock-sill at ordinary spring tides 23 feet 3 inches, and at ordinary neap tides 17 feet 3 inches. The timber pond has an area of 15 acres, and never less than 4 feet of water in depth. The grain sheds on dock quay are six in number, contents 15,700 super yards, with a storage capacity for grain of 18,000 tons. The grid is 260 feet long by 40 feet wide.

FLEETWOOD GRAIN ELEVATOR.

The grain elevator erected by the Lancashire and Yorkshire Railway Company combines all the latest improvements for the rapid and safe elevation of grain, and reflects great credit on its builders, from every point of view. There is no grain elevator in the United Kingdom that can compare with it in completeness and extent; and it is not surpassed for convenience and excellence by any similar grain elevator in our own country.

Situate on the east side of Wyre Dock, Fleetwood, it is used exclusively as a grain elevator, storage capacity 33,000 tons, elevating capacity about 120 tons per hour. The main building consists of three compartments separated by heavy brick walls extending to the roof. The engine and boiler houses are separate from the main building. The whole of the buildings are made as nearly fire-proof as possible.

Dimensions of main building.

Length outside	feet	278
Breadth outside	do	98
Height of tower story	do	21
Depth of bins	do	65
Number of bins in each compartment	do	49
Number of bins in all compartments	do	147
Height of bins from quay to top of front main building	do	102
Height of two elevating towers on main building	do	156

Two vessels may be unloaded at the same time. Steam is supplied by two boilers to a pair of 26 inches by 48 inches condensing engines, making sixty revolutions per minute. Power is distributed from one driving pulley, 20 feet diameter, by fourteen cotton ropes to three counter shafts, and from these sent to the different parts of the house by beveled wheels and twelve sets of cotton ropes. All grain is received by two elevators on dock side, and dropped onto conveyer bands going under ground to main building and then elevated to the top of the most convenient tower above bins, and received into grain-hoppers and weighed, and thence spouted or conveyed on bands on top floor to the bins. All parts of the house are well ventilated. Telephones connect the different parts of the house. A hoist, driven from the engines, goes to the top of building. There is nearly 1¾ miles of cotton ropes for transmission of power, and three-quarters of a mile of vulcanized rubber belting in the house, 2,900 feet of which are for conveyers. All the

machinery was constructed by Messrs. Hick, Hargraves & Co., engineers and machinists, Bolton, Lancashire. All the vulcanized rubber belting was made by the Liverpool Rubber Company. The cotton ropes used for transmission of power were made by William Taylor, Bolton.

The drawings were made in the engineer's office. Work was begun April 12th, 1881, and the first grain received March, 1883.

DESCRIPTION OF MACHINERY, FLEETWOOD GRAIN ELEVATOR.

Boiler-house.—At the northeast corner of elevator is the boiler-house 63 feet 7 inches long, by 30 feet 3 inches wide, in which are fixed two steel boilers, each 28 feet long and 7 feet diameter, having two cylindrical flues to each 2 feet 9 inches diameter, and with "six conical circulating galloway water tubes." The boilers are arranged to work at a daily working pressure of 80 pounds per square inch; close by the firing end of boilers there are a pair of vertical steam donkeys.

Pumps.—Pumps with rams 6 inches diameter, 8 inches stroke, arranged not only to supply the boilers with water, but in case of need for fire purposes, being able to draw from the dock, and force at the rate of 200 gallons a minute to a height of 130 feet, filling a tank at top of building.

Green's economizers.—At the end of boilers there is one of Green's fuel economizers, consisting of 160 vertical pipes, each having scrapers to remove soot. These scrapers are actuated up and down by gearing turned by a very small engine. Much economy is obtained by this apparatus, seeing that cold water (at 32° Fahrenheit) is first sent through the 160 pipes, and by means of the spent gases it enters the boilers at a temperature of from 150° to 175° Fahrenheit.

Weigh machine.—A wheelbarrow weighing-machine is fixed near the bunker and furnaces, in order to weigh every pound of coal used.

The boiler-house is covered in by a tank holding 43,300 gallons of water as a reserve.

Engine and house.—Adjacent to the boiler-house is the engine-house, which is 38 feet long and 22 feet 3 inches wide, in which is fixed one pair of horizontal high-pressure condensing Corliss engines with Inglis & Spencer's valve-motions. Each cylinder is 26 inches diameter by 4 feet stroke, making 480 feet per minute at 60 revolutions. The fly-wheel is 20 feet diameter, having turned out of the face 14 grooves, in each of which are the 1½-inch cotton-rope transmitters of power to the various parts of the elevator. To each engine there is the necessary apparatus for taking indications, vacuum and steam-gauges; and every morning at 11 a. m. a record is entered on a sheet, that any one can see what is being done.

Rope chamber.—The power is transmitted from the engines by 14 cotton ropes which occupy a covered chamber specially arranged outside the elevator, and from which the driving of the elevator and conveyers is taken to all portions of the building.

In the house.—Underneath the two central platforms are the bottom conveyers of 4-ply rubber 23 inches wide and extending in a longitudinal direction from end to end of the house, and, as in America and at American speeds, conveying grain to or from one or each of the four main elevators, the necessary throwing-off apparatus being fixed near the foot of each main elevator.

Ground floor.—At the bottom of each bin there is a 12-inch slide valve, beneath which there is a revolving spout to which are attached

other spouts (also revolving); by this means the grain is taken or spouted into cast-iron openings on the central platforms situated at equal distances from end to end of the structure, and below these openings there are adjustable revolving elbows and spouts conducting grain to the bottom conveyors.

In order not to obstruct the work of weighing, sacking, and loading on to wagons, the motions for opening the valves and turning the spouts overhead, are by means of $\frac{3}{8}$-inch cotton cords running down by the side of columns supporting main structure.

Revolving spouts.—The means, also, by which the spouts above referred to are hoisted or lowered is also by $\frac{3}{8}$-inch cotton ropes conducted down the pillar sides, but instead of these cords being hitched to the columns, to each is a small cast brake-block, to which are attached a continuation of the cords and thence to a small pulley rolling upon hollow rods situated directly under each bin. By these contrivances the raising, lowering, and revolving of each spout is actuated, but, apart from delivering onto the bottom conveyers, they are adjusted so as to deliver grain into hoppers for sack weighing and delivery.

Elevators.—The main elevators, of which there are four, are situated in the center of the north and south sections of the house. The casings are of wrought iron 162 feet long, within each of which is fixed endless four-ply rubber belting, to which are attached steel buckets (336 each) 20 inches long 7 inches wide and 6 inches deep, the distance between each bucket being 12 inches, and strictly of the American pattern.

Each elevator lifts, at the rate of 120 tons per hour, grain to a height of 162 feet, delivering into eight wrought-iron receiving hoppers, each of 10 tons capacity, beneath which there are eight wrought-iron weigh hoppers of 6 tons capacity; from which after being weighed is spouted on to the upper conveyer bands (which are the same as bottom conveyers) and distributed by throwing-off motions into pipes with revolving conical bowls, and from thence through telescopic adjustable crane spouts, which delivers into any one or more bins, and the conveyer bands throughout are also arranged for changing or conditioning.

Hoist.—For the purpose of easy access from ground floor to bin and conveyer floors, and placed in the center, outside the house is a steam-hoist, the cage being 5 feet square, and which in two minutes will take you from top to bottom of the building.

Cleaning machine.—Adjacent to the weighing machines at the top of north tower there is a cleaning machine, so that grain in a dirty condition can be cleaned at the rate of from 20 to 30 tons per hour, and the dust drawn by means of a fan to an outside chamber from which it can be taken into wagons, a line of rails being provided for the purpose.

Ship's leg and tower.—The house being parallel with the east side of dock, but situated 125 feet back from quay, there is a special brick tower 79 feet 2 inches high, 28 feet 4½ inches square at base, tapering to 22 feet square at top; within this tower is the necessary gearing for hoisting or lowering the ship's leg, which has a rake of 22 feet 6 inches from face of dock and a vertical traverse of 22 feet 6 inches below quay level. The casing of this leg is of steel and is 4 feet long, center to center of pulleys, upon which endless India rubber belting 4 ply and 20 inches wide revolves, and attached to which are 90 steel buckets 18 inches long by 6 inches wide, 7 inches deep, of American pattern; the lifting capacity being at the rate of 120 tons per hour. The various motions are obtained as before, by cotton rope driving from the large engine through an underground passage, which is constructed high and wide enough for the transverse ship's leg conveyer also; this conveyer is 23 inches

wide 4-ply rubber (as before), and having at the foot of the two north elevators necessary throwing-off motions and conducting pipes into boots of the two elevators.

Sack weighing.—The revolving spouts at the bottom of each bin are so arranged that one or more can deliver grain into small portable hoppers of special construction and which can be carried from place to place by two men, the weigher standing in such a position that he has full command of the shutter-valve, the scale, scale beam, and sack-delivery hopper, the time taken to weigh each sack of 240 pounds being a quarter of a minute.

I have given these details of the improvements of Fleetwood harbor and dock, with description of the model grain elevator, as well as timber pond, believing that a useful end will be served by having these facts widely known by parties who are interested in the American shipping trade.

ALBERT D. SHAW,
Consul.

UNITED STATES CONSULATE,
Manchester, August 19, 1884.

STEAM COMMUNICATION ON THE MAGDALENA.

REPORT BY CONSUL SMITH, OF CARTHAGENA.

I have the honor to announce to the Department the successful inauguration of a line of river steamboats now running between this port and Honda, the head of navigation of the lower Magdalena River, via the Dique Canal that connects this port with the Magdalena River about 90 miles above its mouth. The company that has established this line is called the Dique Steam Navigation Company, but in reality is mostly owned by the Atlas Steamship Company, a British line of steamers that has made millions of dollars in doing the carrying trade between Colombian ports and New York. The company have three beautiful river steamers, respectively named the Once de Noviembre, Cartagena, and Rafael Nuñez. These boats are of about 70 tons capacity and of light draught, and stern wheelers—something after the style of our Red River steamers. I am sorry to observe that only one of these steamers has been built in the United States; the others were constructed in England. The English-built steamers are much preferred, as they can be more economically run—about one-half the expense in fuel being saved. Our boat-builders must look to their laurels if they do not desire to see in England a formidable competitor for this trade that is now assuming important proportions. Two more river steamers have been ordered by the Dique Company from England to be placed on this new route to Honda. Heretofore the boats plying on the Magdalena River were built in the United States; that is, a majority of them; but if it shall be demonstrated that the English-built steamers can be run on a more economical scale, we will surely see the American-built boats gradually replaced by them. The Magdalena River is similar in its characteristics to the Mississippi River. So is the Atrato River and Sinn River. These two latter rivers are not yet navigated by steamers, but companies have been formed to put on steam lines.

There are now five mails from this port to Bogotá monthly. Cargo from the interior that heretofore found its outlet by way of Barranquilla

to the sea is in many instances coming this way by the Dique line. A saving in time by this new route of 50 per cent. is effected, and a saving of 33 per cent. in transportation charges to the shipper is also made over that of the Barranquilla route.

EDMUND W. P. SMITH,
Consul.

UNITED STATES CONSULATE,
Carthagena, Colombia, August 15, 1884.

THE GOVERNMENT TELEGRAPH SYSTEM OF GREAT BRITAIN.

REPORT BY CONSUL LATHROP, OF BRISTOL.

The first telegraph company began operations in England in the year 1846. It was followed in due course by numerous others, which speedily grew in importance as their vast utility was made manifest. It was not long, however, before it was suggested that business of such a nature should be in the hands of the Government. Complaints were made of inaccuracies, excessive charges, and of absence of facilities in whole districts. In 1854, only eight years after the first inception of telegraphy in England, a plan for assuming its control was suggested to the authorities, followed at short intervals by others, each meeting with wider public appreciation and interest than its predecessor, until finally the presentation, in 1865, of a memorial from the Edinburgh Chamber of Commerce, widely supported by the press and by public opinion, awakened an interest in Parliament which resulted in the passage of a bill on the 31st of July, 1865, "to enable Her Majesty's postmaster-general to acquire, work, and maintain electric telegraphs."

The advocates of the bill argued that the then existing rates of 24 cents for twenty words or less for 100 miles or under; of 36 cents from 1 to 200 miles, and of 48 cents over 200 miles were too high, and that the result was a decreased proportion of telegrams to letters, as compared with several continental countries where Government control and cheap rates existed. They said further that there was no difference, except in mode of transmission, between postal and telegraphic communication, and that all reasons that might be advanced in defense of governmental handling of mails might with equal propriety be applied to telegrams. They claimed that the concentration of the companies into one hand, the state, would obviously result in largely decreased cost for "maintenance;" and that there being no dividends to pay, these two causes would combine to enable the state to conduct the service at such reduced cost that the price of messages could be materially reduced. And far greater facilities they said could be procured for this anticipated cheaper rate; for the first aim of the Government being general accommodation instead of dividends, they would provide telegraphic facilities in many places which now were without them, because unlikely to afford a profit. Less vexatious delay, too, was likely to exist under the new management; first, because under the provisions of the bill the railways, which now blocked up some of the lines for hours with routine business, would have separate lines, and would not interfere with the transmission of telegrams for the general public business; and second, because under a management which only contemplated to clear itself each year, more poles and wires and appliances would be used to accomplish a given amount of work than where profit

and loss was the consideration. Further, it was contended that the people would be safer in the hands of the Government than in the hands of private individuals, from the exceeding sensitiveness of the public in regard to the management of public departments, and from their readiness to find fault if any branch of the public service appeared to be conducted with laxity.

The opponents of the bill, principally the telegraph and railway companies, were loud and bitter in their opposition. They claimed that the measure was an arbitrary and unjustifiable interference with private interests; that the telegraph companies had inaugurated at great risk and expense a new enterprise, the issue of which was doubtful, and that now that they had become an assured success and were reaping a justly-earned reward, that reward was about to be snatched away by an act nothing short of despotic. They said that inasmuch as the companies did most of the signaling for the railways in return for certain privileges and payments, and inasmuch as the companies, and one in particular on a great scale, maintained "intelligence departments," with editors, reporters, and others for the purpose of collecting home and foreign news, political, domestic, and commercial, and distributing the same to the press of the whole country, the Government in seeking to possess themselves of the inland telegraphs was interfering with all the railway communication of the country, with all the public intelligence of the country, with the press of the country, and with its foreign intercourse, political and commercial. The companies experimented largely and systematically. Would the Government, they asked, have the energy or interest to pioneer in electric science to the same extent. And was there not a danger that the telegraph might be used for political purposes, and could the authorities be trusted as implicitly as a private company with the innumerable secrets that were constantly passing over the wires. As the companies were liable to a suit for a mistake involving loss, and as the Government proposed to accept no such responsibility, it was evident, they said, that the public would be placed at a great disadvantage. How far the arguments both for and against the bill were justified by the future I shall endeavor to show farther on.

The bill provided for a uniform rate throughout the United Kingdom of 24 cents for the first twenty words, not counting name and address of sender or addressee, and 12 cents for each additional ten words. This charge included the cost of delivery by special foot messenger within 1 mile of the terminal office, or within the limits of its postal delivery if a head office and that limit exceeded a mile. If the addressee did not reside within these bounds, the message was to be sent free of charge by the next postal delivery,* or, if the sender so desired, by a special foot messenger at a charge of 12 cents for each double mile, outside the above limits. All payments were to be made in stamps, except this just-mentioned one for porterage; and provisions were made for depositing stamped messages in street letter-boxes when desired, to be wired on immediately after collected; also for forwarding communications part way by wire and part way by post, when great expedition was not desired. The charge for press messages was made very low, and was arranged to include communications sent to news rooms, clubs, exchanges, commercial rooms, &c. It was 24 cents for each hundred words by night and for each seventy-five words by day; and for each repetition of the same message to a different address 4 cents per hundred or per seventy-five, according to the hour. Private wires were

* There is a carrier delivery everywhere in this country, at least once a day.

also to be supplied if desired at an annual rental. The secrecy of all messages was as far as possible provided for by making it a crime, with a year's imprisonment, for any employé to wrongfully divulge the contents of any telegram.

The bill provided that the Government should acquire its telegraphic system by the purchase of the undertakings of the companies then existing. There was at no time any serious thought of building or constructing in opposition, it being generally considered a manifest injustice for the Government, with its manifold resources, to compete with private individuals. This, it was held, would have in the end amounted to a roundabout mode of confiscation without compensation. Nor did the idea of contracting for the transmission of messages present such advantages as to entitle it to lengthened consideration. The terms of the bill were permissive, not compulsory, and no company was obliged to sell against its will, but the postmaster-general could not buy out any one company, without buying out any other that might within a year offer to sell. In effect, the bill was compulsory upon both sides: upon the telegraphs, for they knew they could not compete; and upon the Government to buy all or none. Neither did the bill, in terms, give the authorities a monopoly. In effect, however, it did; and when, a year later, an appropriation bill was passed to effectuate the one above referred to, a proviso was included giving the authorities the exclusive privilege of transmitting telegrams. From the effect of this proviso, however, were excluded all companies which existed at the passage of the first bill, and which did not elect to sell their plant to the Government. Inasmuch as all the companies did sell, the telegraph is now in Great Britain an actual and a legal monopoly.

The conditions of purchase were exceedingly liberal. As to the telegraph companies, they were as follows: twenty years' purchase of the net profits during the year ending June 30, 1868; also, a sum equal to the estimated aggregate value of the quoted ordinary share capital of the company, reckoned on the highest quotation shown in the official lists of the London Stock Exchange on any day between the 1st and the 25th days of June, 1868; also compensation for the loss of the prospective profits of the company on the ordinary shares, and any sum that may be determined upon in consideration of the efforts made by the company to establish a uniform shilling rate. There were also some special awards to individual companies for some valuable patents of which they were possessed. Provisions for the selection of arbitrators to carry out the above directions were made, and also for the pensioning of all salaried employés of the companies not needed by the Government.

The intention of the authorities to take over the telegraphs materially increased the value of the shares, and in commenting on this fact the chancellor of the exchequer, when moving the second reading of the bill, June 9, 1868, said:

> In offering to buy these lines of telegraph on the basis of the price of the shares the Government has in fact contributed to the enhancement of the price of the article

It will be seen, therefore, that in buying the stock of the companies at an abnormally advanced price and in paying them, besides, an amount equal to twenty years' average profits, and in further giving them an amount equal to what their increased profits would probably amount to in twenty years, the Government, in its desire to deal fairly, paid exorbitantly.

The railways, nearly all of which had lines, were dealt with on the same liberal scale. They were to use their plant in the future simply in connection with their own business; and if they had been in the past transmitting messages for the public they were to be compensated for the loss of this business on the basis of twenty years' purchase of their annual net receipts, and of twenty times the estimated annual increase, calculated upon the average increase of the preceding three years. They were also to have all rents and payments coming to them from telegraph companies under unexpired contracts; also such sums as might be agreed upon in respect of the loss to the railways of the privilege of granting way-leaves, and of making future arrangements with telegraph or other companies; also such sums as might be agreed upon to cover the loss occasioned by removal of clerks provided by the telegraph companies, and to cover any extra cost which they might be put to in running their lines as a separate system. The bill also directed the arbitrator in making awards "to have regard to the agreements which subsist between the railway company and any telegraph company, and also to a compulsory sale being required from the railway company." The railways, it will be seen, obtained conditions just as favorable as, if not even better than, the telegraph companies.

Under the provisions of the bill payments were made as follows to the various companies:*

The Electric and International Telegraph Company	$14,301,798 44
The British and Irish Magnetic Telegraph Company	6,051,667 94
Reuter's Telegram Company	3,533,079 00
The U. K. Electric Telegraph Company	2,736,257 75
The Universal Private Telegraph Company	897,487 23
The London and Provincial Telegraph Company	291,990 00
Payments made to various companies under special clauses	609,788 87
Payments made to the various railway companies	3,686,145 02
Total	†32,108,214 25

The Government acquired for this amount 77,000 miles of wire,‡ fully and completely equipped with the best appliances then known. That this was an exorbitant price will be shown when I say that it averaged $416.56 per mile, while the 68,000 miles of wire owned in France on this date cost but $65.77 per mile.§ That England should pay much more than France was reasonable, as, instead of building, she bought the good will of several prosperous businesses firmly established, the two principal of which were paying dividends of 8 and 10 per cent. respectively, on a not unduly swelled capital, and besides were continually adding to a large reserve fund; that she should have paid six times as much as France seems, however, unreasonable.

The advantages derived by the people from the transfer were commensurate with the cost. The telegraph offices were more than doubled in number during the first year of Government control, and have since then been opened promptly in every place where the public convenience has required it. Large additions were immediately made to the mileage and to the stock of appliances, and the natural result of these increased facilities and the cheap rate was a largely increased use of the telegraph.

* Report to the House of Commons June 3, 1871; also telegraph act of August 9, 1869.

† The cost of construction to the companies, including patents and everything, was about one-third of this. *Idem.*, p. 211.

‡ Report of the select committee on the telegraph bill, July 16, 1868, page 200.

§ *Idem.*, p. 201.

How this utilization has gone on increasing is shown in Appendix A, and I may add for purposes of comparison that during the last year the companies had the wires the number of messages was 6,000,000 and that the average annual increase during their control was 15 per cent.

The population of the United Kingdom has increased since January 30, 1870 (the date of the transfer), at least 18 per cent. The number of telegrams has increased from 6,000,000 to 32,000,000, over 500 per cent. At the average rate under the companies the increase would have been at the rate of about half this ratio. In 1871 an average of 27 letters was delivered to each inhabitant in the United Kingdom against 36 in 1883. In 1871 one-third of a telegram was transmitted for each inhabitant, against eight-ninths of one in 1883; so we see that while the proportion of letters has increased one-third the proportion of telegrams has increased one and two-thirds, or five times as much.

The Government telegraph has not only been self-supporting since its inception, but has justified every claim in its favor made by even its most enthusiastic advocate. It extends where under private hands it could not be expected to extend; it costs less under one management than it would under many; it supplies more appliances for the same work than a private company, and is more prompt, and, lastly, it gives all these advantages for less money than could be hoped for under other ownership than that of the state.

The arguments and predictions of the opponents of the project came early to grief. The liberal payments of the Government disposed of the cry of confiscation and unjust interference. It has never been even whispered that the telegraphs have been used for political purposes, and people look with surprise on a time when the claim was made that companies could be intrusted better than the state with the secrets of the wires. The engineers of the department in control of the telegraph have kept in the fore-front of electrical science, and every meritorious appliance has been adopted as it appeared. Indeed, having public convenience rather than dividends before their eyes, they have been more ready than a private company to change expensive implements for better ones. The press is on a better footing than ever before. The provincial papers frequently and regularly obtain from one of the two great news organizations offers of a report of some special thing at $5 a column. This includes telegraphing and all, and I believe is cheaper than anywhere else in the world, though I do not speak from book. The press outside of London is a unit in favor of Government control, and the opposition there simply springs from the loss of their old pre-eminence as news monopolizers, which they held through costly special telegrams, now just as accessible to every provincial sheet as to them. The railways now do their own work, and are liberally paid by the Government for any privileges they may extend, such as way-leaves, allowing lines to be put on their poles, &c. They, too, have been converted into advocacy of the new order of things. That there is no recourse against the Government for an error in transmission has in some very exceptional cases made a loss to an innocent party, but the work has been done in the main with great accuracy, and where there has been a mistake involving loss it has been held by the public generally that this single defect in the system in no way counterbalances its overwhelming advantages. We see then that state proprietorship of the telegraphs *has* "interfered with all the railway communication of the country, with the public intelligence, with the press, and with foreign intercourse." More, it has interfered with the private intercourse of individuals. But how? To the great and lasting benefit of all these

great interests, and of the public. The people, the papers, the railways are united, after fourteen years' trial, in advocacy of the Government control of the telegraphs.

TELEGRAPH SYSTEM OF THE UNITED STATES.

We turn now to the United States. The greater the distances the greater the use of the telegraph; the fewer of other means of communication the more constant the employment of the wire. Under these two principles we should expect to find there a far more general use of the telegraph than in the United Kingdom, but instead of this we find in 1881 a difference of only three millions in the number of messages, with a difference in population of twenty millions, and an incalculably greater field, with conditions far more favorable. And why is not the telegraph more largely used in the United States? Clearly because facilities are lacking and rates are high. And clearly, they are as they are, because income has been used for dividends on unduly swelled capital rather than for building lines and opening offices and reducing rates. And clearly, the only remedy is in Government control. I say nothing as to the means by which this should be accomplished, that being a question now under discussion in Congress; but as to the main question, it seems to me that the advantages, especially in America, of State proprietorship of the telegraphs are so obvious as only to require to be brought to the notice of the people in order to make them a unit in demanding the immediate application of the principle to the United States.

LORIN A. LATHROP,
Consul.

UNITED STATES CONSULATE,
Bristol, July 15, 1884.

APPENDIX A.

Table showing the total number of messages forwarded from telegraph offices in England and Wales, Scotland, and Ireland, in each year since the transfer of the telegraphs to the state.

Year.	Number of messages.					
	England and Wales.			Scotland.	Ireland.	Total.
	Provinces.	London.	Total.			
1870–'71	5, 299, 882	2, 863, 821	8, 163, 703	1, 080, 189	606, 285	9, 850, 177
1871–'72	6, 594, 590	3, 612, 772	10, 207, 362	1, 388, 434	878, 000	12, 473, 796
1872–'73	8, 022, 151	4, 577, 015	12, 599, 166	1, 761, 298	1, 175, 316	15, 535, 780
1873–'74	9, 233, 854	5, 254, 547	14, 488, 401	2, 009, 893	1, 323, 236	17, 821, 530
1874–'75	10, 124, 661	5, 652, 033	15, 776, 694	2, 132, 787	1, 343, 639	19, 253, 120
1875–'76	10, 883, 282	6, 350, 714	17, 233, 996	2, 287, 359	1, 452, 180	20, 973, 535
1876–'77	11, 232, 704	6, 561, 930	17, 794, 634	2, 402, 347	1, 529, 162	21, 726, 143
1877–'78	11, 392, 098	6, 700, 504	18. 092, 602	2, 490, 776	1, 588, 489	22, 171, 867
1878–'79	11, 502, 899	8, 830, 019	20, 422, 918	2, 477, 003	1, 559, 854	24, 459, 775
1879–'80	12, 392, 990	9, 854, 586	22, 247, 562	2, 704, 574	1, 595, 001	26, 547, 137
1880–'81	13, 456, 555	11, 176, 459	24. 633, 014	3. 042, 291	1, 736, 677	29, 411, 982
1881–'82	14, 204, 479	12, 071, 034	26, 275, 513	3, 207, 994	1, 862, 354	31, 345, 861
1882–'83	14, 554, 015	12, 374, 707	26, 928, 722	3, 244, 202	1, 919, 102	32, 092, 026

The figures for each year since 1877–'78 include the number of certain press messages not previously included in these returns.

APPENDIX B.

Gross and net revenue derived from the telegraph service since the transfer of the telegraphs to the Post-Office (January 29, 1870).

Year ended March 31.	Gross revenue from messages and from wires rented by cable companies.	News, produce, and special wire rentals.	Private wire rentals.	Miscellaneous.	Extra receipts.	Total revenue collected (*a*).	Payments.		Total telegraph revenue.	Working expenses charged to the telegraph vote (*e*).	Net revenue.
							To cable companies (*b*).	For porterage and message money refunded (*i*).			
1870 *						£107, 479	£5, 000	£1, 719	£100, 760	£62, 273	£38, 487
1871	£908, 351	£31, 975	£16, 763	£14, 128		971, 217	255, 952	17, 331	697, 934	394, 477	303, 457
1872	1, 095, 375	39, 175	32, 578	16, 029		1, 183, 157	408, 965	22, 581	751, 611	591, 776	159, 835
1873	1, 306, 055	43, 300	37, 817	2, 050	£11, 855	1, 401, 077	385, 684	25, 472	989, 921	*d*874, 946	114, 975
1874	1, 403, 793	52, 688	42, 063	3, 626	25, 642	1, 527, 812	416, 475	27, 871	1, 083, 466	*e*967, 790	115, 676
1875	1, 448, 823	58, 478	50, 849	5, 212	13, 285	1, 576, 647	*f* 410, 770	28, 798	1, 137, 079	*g*1, 077, 347	59, 732
1876	1, 479, 477	58, 165	52, 884	6, 896	26, 416	1, 623, 838	320, 808	26, 308	1, 276, 662	*h*1, 031, 524	245, 116
1877	1, 474, 814	65, 041	58, 942	8, 253	14, 549	1, 621, 599	306, 592	*i*1, 900	1, 313, 107	*k*1, 123, 790	189, 317
1878	1, 486, 990	64, 367	58, 329	8, 087	16, 074	1, 633, 847	298, 059	2, 246	1, 333, 542	*k*1, 164, 114	169, 428
1879	1, 448, 043	71, 813	62, 010	8, 555	13, 166	1, 603, 587	254, 550	2, 145	1, 346, 892	*k*1, 089, 392	257, 500
1880	1, 549, 866	76, 269	66, 349	9, 769	14, 475	1, 716, 728	261, 861	2, 378	1, 452, 489	1, 111, 483	341, 006
1881	1, 663, 251	85, 031	67, 747	13, 737	17, 960	1, 847, 726	234, 103	2, 716	1, 610, 907	1, 242, 092	368, 815
1882	1, 697, 552	87, 233	72, 481	25, 090	13, 644	1, 896, 000	262, 493	3, 064	1, 630, 443	1, 365, 633	264, 810
1883	1, 781, 617	97, 989	84, 429	29, 517	15, 515	2, 009, 067	265, 860	3, 144	*l*1, 740, 063	1, 504, 493	235, 570

* Two months.

(*a*). The revenue shown in this table is the amount actually brought to account in each year.

(*b*). The payments to cable companies represent the sums actually paid in each year.

(*c*). The working expenses are those shown in the appropriation accounts of the telegraph vote, and do not include the telegraph expenditure incurred by the office of works in Ireland during the whole period, nor that incurred by the office of works in England since the 1st of April, 1874.

(*d*). The expenses of the year ended March 31, 1873, include arrears of pay for 1870 and 1871, amounting to £64,000.

(*e*). The expenses of the year ended March 31, 1874, include for the first time the cost of extensions, amounting to £31,502.

(*f*). Arrears amounting to £30,006 were paid in this year.

(*g*). Pensions of redundant officers of telegraph companies, amounting to £41,695, were for the first time charged to the telegraph vote. Of this amount £24,999 was for arrears.

(*h*). From the 1st April, 1875, stationery has been provided for in the vote for the stationery office.

(*i*). Payments for the delivery of telegrams beyond one mile were treated as charges on the telegraph revenue until January 31, 1876, but since that date they have been charged to the telegraph vote.

(*k*). The expenses of the years ended March 31, 1877, March 31, 1878, and March 31, 1879, include the sum of £69,946 paid towards the purchase of the site of the Manchester new post-office. The expenses of the years ended March 31, 1877, and March 31, 1878, also include large sums paid to railway companies in settlement of arrears in respect of message work performed for the department and the maintenance of the telegraph plant.

(*l*). Telegraph revenue, as per finance accounts, £1, 724, 548. Add extra receipts, £15, 515; total, £1, 740, 063. Value of old stores, &c., sold by other departments, £27, 997. Grand total, £1, 768, 060.

APPENDIX C.

Expenditure in relation to telegraphs.

Year.	1880–'81.	1881–'82.	1882–'83.
Working expenses charged to the telegraph vote, according to the appropriation account	£1, 242, 092	£1, 365, 633	£1, 504, 493
Manufacture and issue of stamps used on telegrams	1, 938	710	741
Stationery	28, 911	22, 118	22, 474
Buildings	38, 663	49, 916	54, 831
Auditing of telegraph accounts by exchequer and audit department	1, 146	1, 353	1, 561
Rates and contributions in lieu of rates paid by treasury	704	768	913
Total cost of telegraph service	1, 308, 454	1, 440, 498	1, 585, 013

APPENDIX D.

Statement showing the number of private-wire contracts, miles of wire and instruments, and the net additional rentals in each financial year since the transfer.

Financial year.	Net increase in each financial year.			
	Contracts.	Miles.	Instruments.	Rentals.
				£ s. d.
1870–'71	44	62	198	1, 586 6 0
1871–'72	86	270	166	3, 530 11 0
1872–'73	165	674	399	6, 590 8 6
1873–'74	239	702	838	8, 520 12 0
1874–'75	176	657	807	6, 675 14 0
1875–'76	140	351	340	3, 874 1 0
1876–'77	105	466	339	4, 581 18 0
1877–'78	143	273	444	3, 770 4 0
1878–'79	59	402	357	3, 183 5 6
1879–'80	.....	1, 218	353	3, 455 17 1
1880–'81	56	1, 455	317	7, 771 9 2
1881–'82	293	2, 000	556	14, 203 6 0
1882–'83	452	1, 384	766	12, 787 13 6

Financial year.	Totals at the end of each financial year.			
	Contracts.	Miles.	Instruments.	Rentals.†
				£ s. d.
At the 31st March, 1870*	732	2, 525	1, 773	20, 992 10 6
1870–'71	776	2, 587	1, 971	22, 573 16 6
1871–'72	862	2, 857	2, 137	26, 109 7 6
1872–'73	1, 027	3, 531	2, 536	32, 699 16 0
1873–'74	1, 266	4, 233	3, 369	41, 220 8 0
1874–'75	1, 442	4, 890	4, 176	47, 896 2 0
1875–'76	1, 582	5, 241	4, 516	51, 770 3 0
1876–'77	1, 687	5, 707	4, 855	56, 352 1 0
1877–'78	1, 830	5, 980	5, 299	60, 122 5 0
1878–'79	1, 889	6, 382	5, 656	63, 305 10 6
1879–'80	1, 889	7, 600	6, 009	66, 761 7 7
1880–'81	1, 945	9, 055	6, 326	74, 532 16 9
1881–'82	2, 238	11, 055	6, 982	88, 736 2 9
1882–'83	2, 690	12, 439	7, 748	101, 523 16 3

*Contracts inherited from the telegraph companies, and those made by the post-office between the 29th January and the 31st March, 1870.

†The rentals current at the end of the year differ slightly from the rentals received within the year.

APPENDIX E.

Table showing the value of work performed by the post-office telegraph department for other Government departments, and for which no payment has been made, from February 5, 1870, to March 31, 1883.

Period.	Telegrams.		Wire rentals.	Salaries.	Work executed.	Total.
	Inland.	Foreign.				
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Period to March 31, 1871.....	243 3 1	513 9 5	882 1 7	256 15 9	1 15 0	1,897 4 10
Year ended March 31, 1872....	313 7 3	743 4 7	731 0 4	247 5 0	21 2 11	2,056 0 1
Year ended March 31, 1873....	486 10 8	408 18 11	892 1 3	273 5 0	43 1 1	2,103 11 11
Year ended March 31, 1874 ...	626 8 5	752 8 10	1,046 14 9	341 10 5	6 13 11	2,773 16 4
Nine months to December 31, 1874.....	714 18 4	91 15 9	2,018 16 10	1,131 0 10	23 18 11	3,980 10 8
Year ended December 31, 1875.	1,703 2 1	1,707 16 9	4,544 5 11	2,495 4 2	2 17 8	10,453 6 7
Quarter ended March 31, 1876.	933 5 0	.....	1,174 5 10	642 14 8	5 7 8	2,755 13 2
Year ended March 31, 1877....	6,300 17 9	.....	4,977 14 10	2,567 2 8	.....	13,845 15 3
Year ended March 31, 1878....	9,550 15 9	.....	5,338 14 6	2,506 16 9	20 16 8	17,417 3 8
Year ended March 31, 1879....	10,906 8 0	.....	6,378 18 0	3,296 11 4	20 16 7	20,602 13 11
Year ended March 31, 1880....	6,393 1 9	.....	6,435 5 7	2,552 16 1	0 18 6	15,382 1 11
Year ended March 31, 1881....	7,586 8 0	.....	6,891 9 6	5,000 18 11	.....	19,478 16 5
Year ended March 31, 1882....	10,635 19 0	.....	8,608 19 9	2,674 16 10	0 14 7	21,920 10 2
Year ended March 31, 1883 ...	12,978 2 0	.....	10,069 17 8	3,030 14 8	8 15 8	26,087 10 0
Totals.....	69,372 7 1	4,217 9 3	59,990 6 4	27,017 13 1	156 19 2	160,745 14 11

All Government departments since April 1, 1875, have paid for the transmission of foreign telegrams. The increase in the value of inland telegrams sent for Government departments is attributable to an increase in the number of such telegrams, and to certain departments which formerly paid for inland telegrams having ceased to do so.

FRUIT CULTURE IN PALESTINE.

REPORT BY CONSUL MERRILL, OF JERUSALEM.

In answer to the circular from the Department of State, dated December 4, 1883, respecting fruit culture in this country, I have the honor to make the following report on the culture of olives, oranges, grapes, and figs in Palestine:

OLIVES.

There are four kinds of olives raised in Palestine, denominated, respectively, by the natives, the white, the black, the large, and the small. The difference in the trees is not specially marked, and as they all grow together they appear alike to the casual observer. Out of a thousand trees, perhaps, not more than one will produce what are called the "large olives." Likewise very few of what are called the "small olives" are raised. The production is confined mainly to the so-called "white" and "black" kinds. The white are really green, and the black are a very dark purple. While these two kinds are the best, the black kind is that which is chiefly raised.

Olive trees are produced from the stems of the wild olive trees which are raised for the purpose. These are planted about 30 feet apart, and at the age of eight or ten years are grafted, and in three or four years the new shoots begin to bear. Sometimes, when a very small wild olive tree is grafted, fruit is produced in six years, but the usual period is from ten to fourteen years, counting from the time that the wild olive

tree starts from the ground. When the young trees are planted care is taken to have their roots so deep that they will not be molested by the plow, for the land between the trees is always cultivated. Otherwise no pains is taken in planting the trees, and it is seldom that they are watered. Their growth is most rapid and certain if they are watered, but as few farmers have the means to do this it is rarely done; and as to irrigation it may be said that no money is ever spent in irrigating an olive orchard. As to the time that an olive tree will continue bearing, there are no means of determining the question. With regard to many of the oldest trees about Jerusalem, there is a tradition that they date from the time of the Romans.

Olive trees bear a good crop every other year and during the off years only a small or poor crop. The reason is not in the nature of the olive trees themselves, but in the manner of cultivating them. The olives grow on the tiny twigs which sprouted the year previous. When they are gathered the trees are beaten, which destroys the tender twigs of that year, consequently the next year there is only a small crop. Then of course they are not beaten; hence the young twigs get a start and the next year produce a heavy crop. Were sufficient care taken in gathering the fruit, the trees would produce a good crop every year.

As to the soil best adapted for their growth, they seem to flourish best in the valleys and on the plains, and there they produce the largest quantity of fruit; but the olives that are raised on the mountains are said to produce more oil, and that which at the same time is of finer quality. In very many cases the earth seems to fall away from the roots of the trees, so that the parts which should naturally be under ground are exposed to view, and one sees a combined mass of gnarled, tangled roots and trunk; hence a small terrace is built about the trunk of the trees so as to protect the roots from the effects of the sun, otherwise the heat during the long, dry summer would injure them greatly.

The kind called the "green olives," which always remain green, are gathered just before they are ripe, otherwise they would become too soft for use. Those called "black olives" are allowed to remain until they are nearly ripe, when they are picked carefully and put into baskets with salt and subjected to a slight pressure. They remain thus for three or four days, when they are removed from the baskets and put into earthen jars or wooden barrels without the addition of salt, water, or anything, in which state it is supposed that they will keep for an indefinite period. This is the common method of preparing them for eating, but the people in the towns sometimes prepare them for this purpose by pickling them with vinegar.

Those olives that are designed for oil are left on the trees longer, and are gathered when ripe by being beaten off as I have explained. They are allowed to remain in heaps for twenty or twenty-five days, until they become soft, when they are crushed in great stone mills constructed for the purpose and afterwards subjected to a heavy pressure, being first placed in large strong baskets through which the oil is strained as the pressure is applied.

As to the yield of olive trees, a very small tree produces 2 measures, a medium-sized tree 6 or 8 measures, and a large tree produces 12 measures. No estimate can be made as to how much an acre of olive orchard will produce and the yield is never reckoned in that way, but always according to the number of measures. It may be said that an acre or *feddan* is not a very well-defined amount. It means "what a yoke of oxen will plow in a day," which is very indefinite, for strong and fresh oxen will plow more than those that are small and fatigued,

and, again, if the land is rough less can be plowed than where it is smooth.

A measure of olives is considered to be about 4 rottles or a little less than 24 pounds, and 4 rottles of olives will produce 1 rottle of oil, which is equal to about three-quarters of a gallon. The oil as it is taken from the presses in the country is put into skins and carried to the large towns or to the place of export, here chiefly to Jaffa, where it is purchased, stored, and afterwards shipped by the oil merchants. It is stored in large cisterns, which are prepared with great care, and is shipped at the merchant's convenience. It is stored in bulk, but is shipped in casks, and is sent mostly to France, where it is reduced, mixed, and adulterated in various ways, and at last is turned out as pure, genuine French olive oil.

There are really three pressings before all the oil is extracted from the crushed olives. The result of the first pressing is called the "best oil;" of the second, "good oil;" while that of the third pressing is always poor. The first and second qualities are mixed, and the third is always sold to the soap-makers.

The refuse or cake that remains after the oil has been extracted furnishes a superior kind of fuel, and for that purpose it not only finds a ready sale but commands a good price.

As to taxes, one-tenth of the oil produced belongs to the Government. The estimate is made beforehand by judges appointed for the purpose, who visit the orchards and decide on the quantity of oil that the trees will yield. These officers are sure to make over estimates; this is a part of their duty, *i. e.*, to themselves. A certain number of trees may be estimated to produce 1,000 measures of oil, when in reality they will not possibly produce more than 800 measures. Hence the owner before he visits the orchard with the appraiser will hand the latter a certain number of dollars, and after much wise consideration of the matter the appraiser decides that the orchard in question will produce 500 measures of oil. Such a process in regard to every owner of any considerable number of olive trees is gone through with year after year. Besides this there is a land tax, which is considerably higher than the ordinary rates in case the land has upon it young olive trees that do not yet yield fruit.

ORANGES.

The orange groves in Palestine are confined mostly to Jaffa and Gaza, which are situated on the sea-coast. The trees seem to flourish best near the sea, the beach sand mingled with alluvial soil being the best adapted to their growth. There are in Jaffa alone no less than five hundred different gardens, containing altogether not far from 800,000 trees both large and small. Of these gardens one hundred and fifty are ranked as first class, while the others are ranked as second or third rate in size and production.

The trees are planted about 15 feet apart, although there is no regularity or exactness in planting orange trees by the natives any more than there is in anything else that they do. In July or August cuttings are made from the sweet lemon tree, each about 18 inches long, and these are planted in beds and watered twice a day. They grow rapidly, and in the second year they are budded. When the bud has taken the lemon stalk is cut off a few inches above the bud, and the

new shoots begin to bear in the third or fourth year. The trees continue bearing for twenty or thirty years.

During the summer every tree is watered once a week, and some gardeners make it a rule to water their trees every fifth day, Water is brought to the surface from a depth of 25 or 30 feet (where an ample and even inexhaustible supply is found) by means of horse power, the owner of the garden employing for this work horses, mules, donkeys, or camels, according to his convenience. The cost of irrigation, with which it is customary to reckon the other expenses that are necessary to keep the ground in order, is estimated at about one-fifth of the value of the crop in gardens of the first class, while in the inferior gardens it amounts to one-third and sometimes to one-half of the value of the crop.

The orange trees in Palestine do not suffer from any noxious insects, fungous growths, or diseases of any kind. Both the climate and the soil seem admirably adapted to produce healthy trees.

The ground between the trees is generally cultivated, small fruits or vegetables being raised where the branches of the trees do not touch each other. Interspersed among the orange trees one frequently sees palm trees, bananas, the apple, peach, plum, pear, apricot, or fig; also, the mulberry and sycamore. I do not know any reason for this, unless it be attributed to oriental fancy.

The average cost to the producer of 1,000 oranges is estimated to be about $5, and capital invested in orange gardens is expected to return an interest of 12 and sometimes as high as 15 per cent. For 1,000 oranges it is customary to reckon 1,500, so that after they are assorted the purchaser will have, out of his 1,500, 1,000 that are fit for exporting. They are exported in large quantities to Europe, and among the different markets Odessa is becoming one of the finest for the Jaffa oranges. Thousands of boxes are also sent to London, but as the conditions of shipment vary greatly the business is not always a paying one. An experiment has been made the past season of sending them to New York and with very favorable results. Could they be introduced into American markets they would command a ready sale at a good price, since our country produces nothing like them. There is a kind of orange which grows upon trees that are raised directly from the seed of the orange without budding or grafting. These are smaller and of inferior quality and are all consumed at home. The proper Jaffa orange, and the only kind exported, are oval or lemon-shaped, and are very large; in fact, they are the largest oranges in the world. The skin is thick, and in the largest specimens the pulp is inclined to be rather dry.

LEMONS.

Comparatively few lemons beyond a sufficient quantity for home consumption have been raised in this country, although more and more attention is being paid to their culture every year. Like the oranges they attain a very large size, and are far less acid than those found in our American markets. The trees flourish well, both the climate and the soil being finely adapted to their growth.

GRAPES AND RAISINS.

Vineyards are planted on the hillsides and plains, in the valleys and on the sea-coast, and the vines appear to flourish as well in one place as in the other. As to the grapes those that are raised on the hillsides

are the sweetest and best, and they also produce the greatest quantity and the finest wine. Good wine is not produced from grapes that are raised near the sea. All the hill country of Palestine is a limestone region and it is here, as I have said, that the best results are obtained. The earth between the vines is plowed twice a year, men lifting the vines while the plow passes by. In many vineyards the vines are laid on small piles of stone or on the rocks, while in a few they are trained on sticks which raise them slightly above the ground. While the vines are very young the land between them is frequently planted to cucumbers. After three years the vines begin to bear well, and they continue bearing for an indefinite period, the natives say for a hundred years.

The pruning of vines is done in the rudest manner. It may be said also that the orange, lemon, fig, and olive trees are never trimmed. Could these trees be properly cared for, and could the vineyards of the country be put likewise under the care of skilled laborers, there is no reason why the fruits of Palestine, that are here mentioned, might not rival the finest fruits of similar kinds that are at present raised in any part of the world. Even under the present rude system of cultivation the abundance and sweetness of the grapes raised here is simply astonishing. The grapes are not injured by mildew, nor are the vines ever irrigated. As to the cost of the crop per acre, or the yield and value, it is impossible to give any data. The Government claims one-tenth of the yield which is estimated by appraisers or "experts" as in the case of the olives. These men examine the vineyards and decide as to the number of kantars and rottles* that the vines will produce. The Government receives its share in money, not in kind as is the case with wheat and barley.

Very fine raisins are made in Es Salt (east of the Jordan), and also in Hebron. These are chiefly consumed in the country, for raisins are as much a staple article of food in every family as potatoes are in America. The seedless raisins, which are very sweet, are sent to Egypt and small quantities to other places also. Wine, which is manufactured in great quantities, is consumed at home, and very much is shipped to different parts of Europe. It is estimated that 2 kantars or 1,200 pounds of grapes will produce 1 kantar or 600 pounds of wine, or not far from 75 gallons.

FIGS.

The natives count as many as twelve kinds of figs, of which the so-called "white" fig (which is really green) is the best. The trees begin to bear in the third year of their growth, and attain full bearing in their fifth year.

From the nature of the fruit fresh figs cannot be shipped from the country. They are dried by being spread in the sun on flat rocks or on the ground. A dried fig is small and hard, and the skin is puckered. Great quantities of both the fresh and the dried figs are consumed in the country. All the poorer qualities of figs are gathered, and are used for making a very cheap liquor—the vilest kind of *arak*—used largely by the Jews.

*100 rottles = 1 kantar; 1 rottle = nearly 6 pounds; 1 kantar or 100 rottles = nearly 600 pounds.

Rainfall in Jerusalem during the rainy season of 1883–'84.

Months.	Rainfall.	Rainy days.
1883.	*Inches.*	
October	.310	3
November	7.590	11
December	3.205	12
1884.		
January	6.085	10
February	8.260	18
March	3.750	10
April	2.080	2
May	.620	3
Total	31.900	70

SELAH MERRILL,
Consul.

UNITED STATES CONSULATE,
Jerusalem, July 4, 1884.

CAPE COLONY: ITS HISTORY AND COMMERCE.

REPORT BY CONSUL SILER, OF CAPE TOWN.

SELF-GOVERNMENT AND NATIVE WARS.

Representative institutions were conferred upon the Cape Colony thirty years ago, the first Cape Parliament having been opened by Sir Charles Darling, in 1854. Twenty years subsequently it was deemed expedient to assume the task of self-government, and responsible, or party government was inaugurated in 1873. Though it had been found that representation without directive power was of small benefit, grave doubts seem to have existed in the minds of a number of statesmen of that day as to the advisability of undertaking the responsibility of the management of the colonial Government; but many regarded the change as likely to induct an age of gold, forgetting in their zeal that forms of government, however good, will not make a country prosperous where the conditions of prosperity do do exist.

The responsibility of governing the savage native tribes along the colonial border occurred to many as an insuperable objection to the assumption of the duties of self-government; yet others, judging from the unbroken peace which had continued for twenty years, believed that Kafir wars were a thing of the past, and that nothing was to be feared from that source in the future. In this, however, the event proved them to be in error; for the Galeka disturbances which broke out in 1877, were only a prelude to the more violent conflicts of the Zulu war and the unhappy Transvaal rebellion. Though the latter two wars are attributed to the blundering and incapacity of a representative of the mother country, and for which the colonists disclaim all responsibility, they have had to suffer, and are likely to suffer for some time to come, for the errors then committed.

The late abortive attempt to disarm the Basutos showed plainly that the colonial Government had not the power for the task, and resulted in a lamentable exposure of weakness in the presence of a barbarous

people who recognize no law but force. But the timely intervention of the Imperial Government happily relieved the colony of its responsibility in Basutoland, and the granting of representation to the Transkeian territory will, it is hoped, be the means of establishing a *modus vivendi* so that amicable relations may be maintained and future wars avoided.

These native wars have added greatly to the debt of the colony, the burden of which is now felt acutely. The public debt of the colony had its beginning with the introduction of parliamentary government, and has been growing ever since, and now has reached the respectable sum of about $100,000,000. Of this amount, however, a considerable portion has been expended on the construction of railways and other public works, and may be considered profitably and judiciously invested; but the millions squandered in not unfrequently avoidable native wars are to be deplored.

Though the Cape Colony has been outstripped in the strides of progress by others of more recent growth, it has, nevertheless, made wonderful advances within the last thirty years; during that time the population has doubled and the imports and exports more than trebled. The discovery of diamonds in Griqualand West, in 1870, gave a great impetus to trade, and unbounded prosperity continued throughout the colony for ten years. Until 1871 there were but 58 miles of railway in the colony, but the construction of new lines was then commenced and there are now operated 1,000 miles of railway, connecting the principal towns of the colony. In 1881 the acme of prosperity seems to have been reached; since then trade has been on the decline, and now is at a very low ebb indeed. The falling off in trade, diminished imports and exports, has greatly decreased the revenue derived from customs duties during the last three years.

DEMANDING PROTECTION FOR HOME INDUSTRIES.

Much opposition to the late increase of the customs tariff is manifested, it being asserted by many that instead of augmenting the revenues of the colony, as designed, the act will tend to an opposite effect, by diverting the extensive and lucrative trade of the interior to Natal, where the import duties are little more than one-third of those levied at the ports of Cape Colony.

A considerable sentiment has lately been developed throughout the colony for protection of native industries, though it met with much disfavor by many colonists, who argue that inasmuch as there are no manufactures worthy of the name in the colony to protect, they are in no position to compete in manufactures with old countries, where material and labor are cheap, and that their true interests consist in increasing agricultural and mineral productions, leaving for the present manufactures for older countries. There may be some grounds for this course of argument; for it is a fact, notorious, that every manufacturing industry started here by joint stock enterprise has failed, though I see no reason why it should have been so.

More than $2,400,000 annually go out of the colony alone for breadstuffs, while the finest grade of wheat in the world is produced here, and this enormous outlay could be saved to the colony simply by bestowing more time and care to the growing of wheat and corn; and about the same may be said in respect of most of the staple food products, such as cured hams, bacon, butter, cheese, &c. These articles are all imported, and to the original cost and the expense transportation may

be added 15 per cent. duty. These articles could all be produced in the colony in quantities not only sufficient for home consumption, but to be made, as well, important items of export. The excuse pleaded in extenuation for this neglect of what might be made a paying industry, is the difficulty and expense of transportation to market. This does not seem to me satisfactory. The real cause of this indifference to their own interests lies in the apathy and want of enterprise among the colonists themselves, and their sturdy opposition to any new departure which might tend to encroach upon the sacred programme pursued by their hard-fisted and hard-headed old ancestors. Their herds and flocks are their idol; but no effort is made to improve the breed of the one, or the quality or quantity of the products of the other.

TRADE DEPRESSION.

Whether or not the continued depression of trade and the want of commercial life and spirit in this colony are the consequences of bad or ill-directed government it does not become me to express an opinion. That there is some cause for the present prostration of trade beyond that which might result from short crops, epidemics, or other unavoidable disasters, there is no doubt. I arrived here at the beginning of the great panic of 1881; a year afterward it was believed that the worst had passed, and a revival of prosperity was predicted for the next year. The next came and ended, but left no perceptible improvement. The third year is now drawing to a close, and to-day trade of all descriptions in this colony is at a lower ebb than at any previous period within my experience.

IMPORTS AND EXPORTS.

The commercial returns for the year 1883 show an alarming falling off as compared with 1882 and 1881, the figures being: Total value of imports, 1881, £8,959.371; 1882, £8,581,702; 1883, £5,560,294; decrease in 1883, £3,021,408, or 35.2 per cent. compared with 1882, and of £3,399,077, or 37.9 per cent as compared with 1881.

The values of colonial produce, including diamonds, exported during the same three years are as follows: 1881, £8,140,042; 1882, £7,831,626; 1883, £7,228,900. Comparing these values with the values of merchandise imported during the same periods, will show a balance against the colony, in 1881, of £819,329; in 1882, of £750,076; while for 1883 there will appear a balance in favor of the colony of £1,668,606. In 1882 merchandise to the value of $1,924,676, and in 1883 of $1,457,734, was imported from the United States, showing a balance against the latter year of $467,042; a decrease of only about 24 per cent., which, it will be observed, is considerably less than the average falling off in imports, and may be principally explained on account of the reduced quantities of agricultural implements and machinery imported in 1883, as compared with the previous year. In 1882 colonial produce was exported to the United States of the value of $464,152, and in 1883 of $485,642, showing an increase in favor of last year of $21,490, or about 4.4 per cent.

REVENUE.

The comparative statement of revenue published in a late issue of the Government Gazette reflects the gloom which has thickened over the commerce and industry of the colony within the last year. In the financial year ending June 30, 1883, the depression was plainly visible; but the last one exhibits a contrast more emphatic. The decrease on the whole revenue in the year 1883–'84, compared with that of 1882–'83, was £357,612.

JAS. W. SILER,
Consul.

UNITED STATES CONSULATE,
Cape Town, August 8, 1884.

THE NEW SWISS TARIFF AS IT AFFECTS SILK AND SILK GOODS.

REPORT BY CONSUL PEIXOTTO, OF LYONS.

The new customs tariff recently adopted by the National Council and by the States Council of the Swiss Confederation has just been published and submitted *ad referendum* in compliance with the law of June 26–26 last past.

The new tariff will not go into effect until the 26th September, nintey days after its adoption by the councils, and, during this interval, upon the demand (according to Article 89 of the federal constitution, May 29, 1874) of eight cantons or of 30,000 citizens, must be submitted to the people for adoption or rejection. This demand has not as yet been made.

The following are the changes made in the new tariff in so far as regards silk and silk goods:

Duties imposed on 100 kilograms.

Articles.	New tariff.	Conventional tariff.	Actual tariff.
	Francs.	*Francs.*	*Francs.*
Cocoons, waste silk, frisons, combed waste, and defective cocoons	.80	.....	.60
RAW SILK AND SILK WASTE:			
Combed floss silk	1.00	.....	4.00
Grége silk (not thrown)	1.50	4.00	4.00
All other kinds raw silk	7.00	4.00	4.00
Dyed silk and waste silk dyed	16.00	.....	16.00
Silk and waste silk on spools, balls, or small skeins for retail trade	40.00	.....	16.00
Tissues of silk or silk waste, unbleached, washed, dyed, printed, or dressed	16.00	16.00	16.00
Ribbons and trimmings of silk and waste silk	50.00	16.00	16.00
Silk hosiery	50.00	16.00	16.00
Silk embroidery	60.00	.....	30.00
Laces	60.00	30.00	30.00
Tissues, trimmings, and laces of silk or silk waste mixed with gold and silver	60.00	30.00	30.00

The amended tariff will take effect only after September 26, 1884, if approved by a vote of the people, should this be demanded, and will apply, in so far as France, Spain, and Germany are concerned, to those articles only which, in her recent treaties with those countries, Switzerland has not excepted. Among these are the following:

Cocoons and silk waste reduced from 60 to 30 centimes per 100 kilograms. Combed floss silk from 4 to 1 franc per 100 kilograms. Silk and silk waste on spools raised from 16 to 40 francs per 100 kilograms. Silk embroideries augmented from 30 to 60 francs per 100 kilograms.

Switzerland is bound to France and Italy by treaties of commerce which expire on February 1, 1892. The duties given in the second column in the foregoing table cannot be altered before that date. It will be observed that raw silk, which is now subject to a duty of 4 francs per 100 kilograms, according to the treaty with Italy, which likewise governs France, will be reduced to 1.50 francs by the new tariff. France and Italy will therefore profit under the clause of the most favored nation by the reduction.

BENJAMIN F. PEIXOTTO,
Consul.

UNITED STATES CONSULATE,
Lyons, August 14, 1884.

GOLD-FIELDS OF THE TRANSVAAL.

REPORT BY CONSUL SILER, OF CAPE TOWN.

The gold-fields of the Transvaal Republic continue to attract an absorbing interest throughout South Africa.

That gold in large quantities exists there, is no longer open to question, but the peculiar formation of the country renders the labor of individual digging both arduous and precarious.

The first known discoveries of gold in the Transvaal country by white men, were made in 1873 at a place called Lydenburg. The value of

gold dust and nuggets shipped from these mines from time of discovery to the end of 1878, as reported by the Gold Fields Mercury, an old Transvaal newspaper, now defunct, affords some indication of their richness.

During this period very little attention was attracted by the vague rumors which occasionally reached the outside world of gold discoveries in the Transvaal, and the field was left entirely in the hands of a small number of inexperienced diggers, widely scattered, and who were without other mining implements than pick and shovel. But this system work has had its day, and whatever wealth lies hidden in the rugged hills of the Transvaal, will in future be developed and brought to the light of day by means of improved mining machinery, which will incur great cost, and therefore available only to the wealthy capitalist. Syndicates have been formed, companies organized, and large quantities of machinery ordered.

By the last advices from Delagoa Bay there were seventy wagon loads of mining machinery lying there waiting transportation to the gold-fields, and it is confidently predicted by the sanguine that when this machinery is once set to work the yield of gold will be phenomenal and beyond all former precedent.

There are doubtless rich deposits of gold in many parts of the Transvaal country, but the great attraction at present is centered in the Kaap Valley, situated several days' travel southeast from Lydenburg.

This entire valley is owned by one G. P. Moodie, formerly surveyor-general of the Transvaal. Mr. Moodie's possessions consist of thirteen farms of several thousand acres each, and it is claimed that a quartz gold-bearing reef is known to run almost the entire length of his property. Should this report prove to be correct, the austere, conservative little Republic of South Africa may hope one day to rival what California and Australia were in the last generation.

AMERICANS AT THE GOLD-FIELDS.

Almost every mail from the United States brings me letters from our countrymen who seem to contemplate a trial of their fortune at the South African gold-fields, and who ask for all sorts of information concerning the same.

To many of these inquiries I have replied, but to none have I held out inducement. There are several Americans at present on the gold-fields, and so far as I have been able to learn few have made expenses, and the majority are waiting for remittances with which to defray a homeward passage.

HOW TO REACH THE GOLD-FIELDS.

But as any amount of warning never suffices to deter a certain class of people from a set purpose, I doubt not that many Americans, attracted by the prospect of adventure, and the possibility of a lucky "strike," will find their way to the Transvaal gold-fields within the near future; for the benefit of such individuals I will briefly describe the different routes by which the fields may be reached from the sea-coast.

As yet but two routes to "Moodie's Rush" as the Kaap Valley fields are now called, have been opened, one leading from Port Durban, Natal, and the other from Delagoa Bay, a Portuguese possession, and situated in 26° south latitude. We will go over the Durban route first:

The distance from Durban to Moodie's is about 450 miles, and there is a tolerably defined road all the way, and for most part occasional

houses at which a rough meal may be procured; the points at which this route touches are as follows: Durban to Newcastle, distance 225 miles; Walker's, at Cold Stream, 30 miles; Sand Spruit, 11 miles; Rolfontein, 19 miles; Vaal Rinn, 15 miles; Ermelo Township, 18 miles; Lake Chrissie, 20 miles; Warm Baths, 45 miles; Komati, 30 miles; Moodie's, 29 miles.

The journey from Delagoa Bay is much shorter than that from Durban, though for many reasons the latter route is preferred by most travelers. The Delagoa route, as at present laid out, is as follows: Setting out from Laurenzo Marquez, the post town of Delagoa Bay, the journey is almost due westward, and the traveler comes to Pesini, distance 20 miles, Matala Poost, in the Lebombo, 14 miles; first water on the west side of the Lebombo, 18 miles; the Koomati River, 6 miles; the Crocodile River, 16 miles; Mac Lachlan's, 50 miles; Moodie's, 34 miles; total distance, 158 miles.

It will be seen that this is the shortest route by considerably more than half, but it is fraught with many obstacles and disadvantages.

For 50 miles from the coast the journey lies through a low, swampy country, the exhalations from whose rank, rotting vegetation seems alike fatal to man and beast, except during a very short period in each year, and is never safe except from June to August. The fevers peculiar to this inhospitable region are almost invariably fatal.

After having traversed this deadly jungle, one next has to encounter an endless succession of hills, mountains, and cañons, through which no regularly defined highway has yet been constructed.

Time, however, will no doubt develop the means to greatly ameliorate many of the disadvantages just enumerated. It is asserted here as a fact that the Transvaal Government have consummated an arrangement with the Government of Portugal by which a railway is to be built from Delagoa Bay to the Transvaal capital.

An enterprise of this kind would develop a wonderful trade in that part of Africa, and would tend to make Lourenzo Marquez a seaport of great importance.

BRITISH INTERESTS IN DELAGOA BAY.

Delagoa Bay is a safe natural harbor, and the only one on the southeast coast of the continent, and just at this time is the object of the most ardent solicitude on the part of Great Britain; for should a line of railway penetrate the interior from that point, it would soon control the large inland trade which is now being conducted through the ports of Cape Colony and Natal.

The duties exacted by the Portuguese Government on all kinds of goods entered at the port of Laurenzo Marquez is only 3 per cent. ad valorem, which is certainly low enough.

Great Britain, however, enjoys an advantage far superior to even this low rate of tariff; her minister at the court of Portugal some time since effected a treaty which provides that British goods shall be admitted free of custom dues in bond, the British Government allowed to build bonded warehouses to any extent, to connect such bonded warehouses by rail to the frontier of the Transvaal, and so to import goods, free of Portuguese customs, through the Portuguese territory. It has not transpired whether or not it is the intention of Great Britain to avail herself of this uncommonly liberal concession.

In conclusion, I beg to suggest to the Department that it seems to me important that we should enter into a commercial treaty with the Government of the Transvaal Republic.

Most European Governments have concluded such treaties, and have appointed consular officers at the capital of the Republic. It is true we have few interests at stake in the Transvaal at present; but I know of no cause why we should not keep abreast of other powers in watching developments which are in store for this wonderfully rich mineral country, and to be prepared to push our trade there at the first opening of the market.

JAS. W. SILER,
Consul.

UNITED STATES CONSULATE,
Cape Town, July 16, 1884.

EMIGRATION VIA HAMBURG.

REPORT BY CONSUL BAILEY.

I have the honor to transmit herewith tabulated statements showing the emigration via Hamburg during the month of June, 1884; also during the same month from 1871 to and including 1884; and the emigration during the first six months of each year from 1871 to 1884 inclusive.

Table No. 1 shows the total emigration of males and females, with subdivision as follows: Persons over ten years of age, from one to ten years of age, under one year, single persons, and also families.

Table No. 2 shows the native country of the emigrants and the countries to which they emigrated. Of the total emigration via Hamburg, amounting to 7,646 persons, no less than 7,404 males and females selected the United States as their future home.

Table No. 3 is a statement showing the total emigration via Hamburg during the month of June, from 1871 to and including June, 1884.

In June, 1881, the greatest number left their native land, being 11,082 persons, raising from 6,553 in the previous year to that number and falling to 9,543 in 1882, to 7,837 in 1883, and to 7,646 in 1884

The reason of this decrease is due probably to the successive seasons of poor crops and the more stringent police regulations in regard to emigration.

Table No. 4 shows the total emigration for the first six months of each year, from 1871 to 1884, inclusive.

A study of this table is interesting, as it shows the fluctuations in the tide of emigration, and one can picture the misery caused by poor crops and depression in business exhibited by the decreased emigration. In the first six months of 1871, there were 18,009 emigrants via Hamburg, and following the hypothesis just stated that year must have been a good one as relating to crops and business, as the emigration in the following year (1872) more than doubled, and increased still more in 1873 to 40,068.

Following the years, the table shows a steady decline until 1877, when the lowest ebb was reached, there being only 11,867 during the said period.

From that year until 1881 there was a steady increase in the emigration (excepting one year, 1879, when there was a slight fall), when the enormous total of 73,633 is noted. In the following year, 1882, a slight decrease is shown, followed by a still greater decrease, while during the present year we have an increase again, or a total of 61,051 emigrants.

J. M. BAILEY,
Consul.

UNITED STATES CONSULATE,
Hamburg, July 16, 1884.

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1. *Emigration, via Hamburg, during June,* 1884.

	Direct emigration with 12 emigrant ships.	Indirect emigration with 49 emigrant ships.	Direct emigration with 13 other ships.	Total.
Number of emigrants:				
Males	3,654	816	76	4,546
Females	2,770	309	21	3,100
Total	6,424	1,125	97	7,646
Over ten years:				
Males	2,798	755	74	3,627
Females	1,984	233	19	2,236
From one to ten years:				
Males	651	50	2	703
Females	585	66	2	653
Under one year:				
Males	205	11	.....	216
Females	201	10	.....	211
Single persons:				
Males	2,030	584	67	2,681
Females	829	53	10	892
Families	1,063	148	8	1,219

71 steamships and 3 sailing ships.

2. *Native country and destination of emigrants.*

	Kingdom of Prussia.	Germany.	Other European countries.	Other countries.	Total.
United States:					
Males	1,471	681	2,163	100	4,375
Females	1,145	446	1,392	46	3,029
British North America:					
Males	27	3	4	.....	34
Females	13	3	1	.....	17
Central America and Mexico:					
Males	1	.....	.....	1	2
Females	.....	.....	.....	.....	.....
West Indies:					
Males	.....	.....	2	.....	2
Females	.....	.....	3	.....	3
Brazil:					
Males	17	25	8	8	58
Females	5	9	1	13	28
Argentine Republic:					
Males	10	1	4	3	18
Females	2	1	1	2	6

2. *Native country and destination of emigrants*—Continued.

	Kingdom of Prussia.	Germany.	Other European countries.	Other countries.	Total.
Peru:					
Males	2	6		1	9
Females		1		3	4
Chili:					
Males	4	4	2	1	11
Females	1	3			4
Other South American States:					
Males	8	5	2	1	16
Females	2	1			3
Africa:					
Males	3	3	3	1	10
Females	3	2		1	6
Asia:					
Males		2			2
Females					
Australia:					
Males	1	2	2	4	9
Females					
Males	1,544	682	2,200	120	4,546
Females	1,171	466	1,398	65	3,100
Total	2,715	1,148	3,598	185	7,646

3. *Emigration, via Hamburg, during the month of June from* 1871 *to* 1884, *inclusive.*

Year.	Males.	Females.	Total.	Year.	Males.	Females.	Total.
1871	2,299	1,618	3,917	1878	1,423	975	2,398
1872	3,674	2,567	6,241	1879	1,488	1,023	2,511
1873	3,425	2,549	5,974	1880	4,136	2,417	6,553
1874	1,829	1,456	3,285	1881	6,401	4,681	11,082
1875	2,571	1,940	4,511	1882	5,743	3,800	9,543
1876	2,364	1,714	4,078	1883	4,620	3,217	7,837
1877	1,962	1,262	3,224	1884	4,546	3,100	7,646

4. *Emigration, via Hamburg, from January* 1 *to June* 30 *of each year from* 1871 *to* 1884, *inclusive.*

Year.	Males.	Females.	Total.	Year.	Males.	Females.	Total.
1871	10,566	7,443	18,009	1878	7,754	4,964	12,718
1872	22,403	14,545	36,948	1879	7,786	4,508	12,294
1873	23,096	16,972	40,068	1880	20,785	11,704	32,489
1874	11,447	8,532	19,979	1881	45,817	27,816	73,633
1875	10,981	7,546	18,527	1882	43,314	25,119	68,433
1876	9,494	6,338	15,832	1883	29,021	17,600	46,621
1877	7,369	4,498	11,867	1884	38,594	22,457	61,051

THE HISTORY OF A BUSINESS HOUSE IN MEXICO.

REPORT BY CONSUL-GENERAL SUTTON, OF MATAMOROS.

While on a recent visit in Northern Mexico, I one afternoon accepted an invitation to visit the house of an old established merchant. The head of the house now resides in Germany, but the death of one of the firm had caused him to revisit this country. I had not met him before since 1879, when he had been visiting in Mexico.

After some time spent in inquiries after mutual friends, and talking over the business situation, my host proceeded to show me over the establishment. First we looked through the retail department, where some $25,000 worth of goods were on sale. While the business was more particularly in dry goods, yet other goods were kept in stock. Next door to this is the wholesale department, where a stock of over $100,000 worth of goods is kept. Back of all these is the banking department, as the firm has correspondents in many cities of Mexico, the United States, and Europe, and gives and pays orders for money.

The goods on hand are worth, say, $150,000, and the amount due on goods sold or sent out to branch houses and the various credits make up about as much more. The resident partners and most of the clerks live in the building. This building occupies a corner in one of the best portions of the city. It is of stone, two stories, with the usual inner court, outside balconies, iron-barred windows, and very massively built. Several rooms have chimney-places, and there are two small stoves—one for the office, the other for a lady's parlor. The residence rooms are elaborately furnished and in many respects would equal or rival such rooms in New York or Chicago. The solid rosewood or mahogany furniture came from Paris, and that long before the railways of Texas had pointed toward the Mexican border.

In the after-dinner talk we discussed the changed business conditions brought about by the advent of the American railways and the probable future of the country.

Unlike many merchants in this country, my host is an optimist, and hoped for and believed in a prosperous future for Mexico—not the wonderful future that some write of so enthusiastically, but a moderate one—one founded on broader views and bringing more extended education for the masses and better laws.

I had long desired to know the real history of this house, and one remark brought on another until I had got my wish.

The name of my host is ———, a good German name. His partners, all of whom I know, are also Germans, but the name of the house is different from any of theirs.

If "John Smith" were a good German name it would be something like this: "Successors to the widow of John Smith."

"The name or good will of a house is valuable in this country," said my host, rolling another of the corn-shuck cigarettes of which he became so fond in his younger days.

The conversation ran on something like this:

Some time in the thirties a cousin of my father's came to Mexico, and after roaming around, turning his hand to mining, surveying, smuggling, &c., settled down in the frontier port of M. It was an ideally dull, quiet place. He became head clerk, bookkeeper, and general manager of a wholesale house. For half the year no business was done, and they spent the leisure time in visits to the Gulf for fish and oysters, hunts after wild hogs, lions, tigers, deer, and smaller game. Then two or three horsemen would arrive and announce the coming of their employer to buy goods.

He would usually arrive in an ambulance drawn by five fleet, handsome little Mexican mules. Usually ten or a dozen retainers accompanied him on horseback, and he often brought a friend or relative setting out on a trip to Europe. When his train of carts arrived he bought five to fifteen thousand dollars' worth of goods, and started his train back on its long road to the interior. Perhaps the interior merchant expected a vessel with a cargo, and thus bought but few goods. It made no difference; he and his friends, his retainers, servants, horses, mules, and all that he had were made welcome. He stayed weeks, sometimes months, and was like a member of the family. Those were indeed ideal days. Everybody was honest then. When the buyer bought goods he paid for his previous year's purchase in hard eagle dollars. Often an entire stranger would buy $5,000 worth of goods and not pay a dollar. He simply said he was so and so, of such a hacienda. The next year he would come again and pay for the previous purchase.

My father's cousin stayed there for three or four years when he fell heir to about

$2,000 in your money by the death of his father in Germany. He wrote to Germany to my father, then a clerk in Hamburg, to go to Manchester and buy certain goods, mostly calicoes, and bring them out to M. in a sailing vessel which would leave Liverpool at a certain time. This, I think, was in 1838. My father had a little money of his own and a wife and four children. He took nearly all his money but left the wife and children. At Manchester, while buying the goods, for which most careful samples had been sent him, he met the great Mr. R., whose firm-name is so well-known in Spanish-speaking commercial circles over the world. Mr. R. talked with and liked my father; helped him in selecting his stock and told him to order as many goods as they wanted by return of ship and he would see that they were sent, whether the money came or not. Well, by the time my father reached M. his cousin had married the daughter of the head of the house and the father had died. My father and his cousin went in partnership with the widow under the name of "Widow of——." "But that is a German name," I said. "Yes," replied my host, "now I recall that the old man was half German. His father was German and his mother a Mexican. That is where the German sound of the house comes from.

My father and his cousin kept up the business and made money. The Manchester connection with Mr. R. was of great service. Often they owed him $25,000, and some years they would get ahead and have money to their credit. In eight years they had paid up the widow and had a good business. They had a few revolutions but they kept quiet—"shady" is it not in English?—and they did well. If they got bit they made no fuss but looked out better next time.

Things stood this way when you Americans came down here in 1846. My father did not like them. I don't know why, but he and the Yankees never agreed. So my father went back to Germany, and his cousin moved up here into the interior. The firm, however, was not changed. My father bought for the house, traveling from Manchester to Paris, Bordeaux, down into Spain and Italy and in Germany. He left much of his money in the firm, too. All this time they kept the branch house in M. to receive and forward goods, money, and so forth.

In 1850, my father sent me to Spain for a year to learn Spanish and the Spanish goods. I lived in the beautiful city of Cadiz, and then I went first, to Bordeaux, where I stayed a few months, then to Manchester, where I stayed a year, and then I came over here and went into the house at M.

For nearly ten years we had slow work. Revolutions came one after another, and we had to pay pretty heavy "prestamos."

I think, that about 1859, when I was admitted as a partner, that the house was not worth clear over $25,000. My father's cousin died in 1858, I think, so that on my father's death, in 1860, we were all young heads. I had three brothers—two partners—and two cousins—one a partner, all Germans—to help me.

We had hard work, I tell you, but the R's in Manchester, and our correspondents in Hamburg and Paris, stood by us bravely. We lost some goods, too, in those years.

We trusted Don ———, the most celebrated smuggler of his time, with $18,000 worth of goods, and they were all seized by a new revolutionary chief. Then for almost a year once we could not get goods to the interior nor money out.

In 1860, I went back to Cadiz and married my second wife. On the way back I bought heavily, and early in 1861, we had two cargoes worth almost $100,000 on the way. About that time you Yankees were having another mess of it. Great people you are to fight, any way. My father, as I said, never could get along with your people. I can, though, and that time I struck it just right. Our two cargoes came early in 1861, and prices went up two or three hundred per cent. All your southern States were shut up by the Union blockade, and they wanted our goods mighty bad, I assure you.

Now, I thought, the South would surely whip, but when they offered me Confederate paper money I declined. I said that eagle dollars were good enough for me, though very unhandy to carry about. So we stuck to silver dollars, sold our goods, paid our debts, and bought more goods. In those times I went to Europe nearly every year, buying sometimes in New York as well. Yes, we did bring out ham, bacon, flour, blankets, and such things. I *suppose* these goods crossed the river into the Confederacy. But, my friend, when they shook bags of eagle dollars in my face or offered me bales of good cotton, I never made any exhaustive inquiries. Good dollars and good cotton were good enough for me when they paid my price. Yes, I lost some. One bark from Bordeaux blew ashore in a storm on the Texas bank, and your Federal troops took everything on board and then burned the bark. I was very angry, but said I will make it up from the Americans somehow. Sure enough, I did.

I charged the next American I sold a big bill to about five prices and allowed him half price for his cotton. He was in a pinch and I pinched him. I had the goods and no one else had them, and he needed them. Yes, I believe *he* was a Confederate, but that made no difference. You folks are all Yankees anyhow.

I had another loss. The French went back on us and let C. capture a large and rich train. We had some $25,000 in that lot. I saw the Mexican officers wearing my clothing, but (with a shrug of the shoulders) what could I do? C. laughed at me,

and asked me to loan him $10,000 to help whip Cortina. *And I really lent it* to him, and he took off one of my hats to salute me. Oh, yes, he paid it back; that is, he gave me an order on the custom-house for $15,000, and by paying a little I got about $25,000 on duties.

I had another loss, too, and that was a big one. Late in 1864 I bought a cargo of cotton and started for Liverpool. We had to dodge your Yankee cruisers; then we had bad weather and put in at Nassau for several weeks. When I reached Liverpool cotton had fallen a few cents, but I refused to sell. I thought the South would whip. Cotton weakened more, and finally the bottom went clear out and you could hardly give it away, Ah! Dios, but that was a bad time. It made me sick. When I crept in out of the wet, figuring up a loss of $110,000, I had to go to the spas to regain my mental vigor. I went back again in 1868 and stayed until 1870.

Taking it all around, we had done well while you folks were fighting, and in 1870 we balanced our books at $250,000, and some individual property for each of the four partners. Then I went back, bought me a nice house in Germany and enjoyed myself.

When I met you in 1878 I had come out to see about setting up —— [his nephew] in business at ———. He is a keen, sharp boy. In five years more I will take out all my money and let him take charge. The house is worth now about half a million eagle dollars.

Then several of the boys have haciendas, one has a cotton mill, and all have played with mines a little.

There is, with my individual money, about three-quarters of a million in the family. Not so very much, but better than staying in Germany, is it not? In all our commercial history we have paid every debt in full. We do not like you Yankees very well since the cotton times. If you have $10,000 capital you immediately branch out into a $25,000 business. We take $25,000 and do a business of that amount, and only borrow after our goods are sold and we purchase the second lot.

Now, however, we have a running credit, and receive and pay 4 per cent. on our balances. In Hamburg they are mighty glad to have us in their books.

But, said I, cannot you get good credits in New York?

Yes, we can get credits in New York, but those folks like to get rich too quick. They can't look ahead and wait. If they do not see a visible return in the first bill of goods sold, they lose interest in you and turn to something else. Now in Manchester and Hamburg they protect us. They won't let prices go so high that they cannot sell to us so that we can make a profit. Ah, but you Americans have made them wonderfully polite over there. They are afraid of you, and they will submit to a temporary loss before losing our custom. Of course we like German goods best and we always buy them when we can. Foreign goods, that is European, suit us better here. They are not so nice nor so handy sometimes as yours, but we are used to them.

We have got into the habit of ordering goods from Europe and don't like to change. In New York they are always asking us for statements or sending statements of our accounts. Afraid we will fail or forget them, I suppose. In Europe, on the other hand, it is just as we wish. Pay this year or next; it makes no difference. The banks will loan them on our credit at the same rates they charge us.

Then, too, in Europe they all know something about Mexican trade, the language, and the geography of the country. A few years ago we ordered goods from a New York house to try American calicoes. We supposed from what we had heard that our credit was good there. They sent around to several houses and got replies from them that we were first class. Then they filled the order and sent us the invoice. My sons looked over the invoices, and, after thinking a little, telegraphed to the M. house to go to the American side and inspect every package before taking out the Mexican permit. They had said so many pieces of prints so many inches wide, with so many yards. When they were examined nearly one-half of the pieces were an inch wider than described in the invoice. There was a pretty bad collector at M. then, and if we had crossed on that invoice the fines would have been more than the value of the goods in New York. Some pieces were narrower than the invoice said, and the money saved on the extra width made quite an item. But those New York fellows just lumped it all off. Now as to the pay. Their usual terms were, I believe, ninety days. It was four months before the goods got into Mexico, still some 300 miles from their destination.

Thirty days after they sent the goods they got scared about their little $5,000 bill, and wrote us a long letter, in which, after many apologies for the trouble, they asked for a statement of our resources and liabilities. My second son, Henry, was very indignant, but, after thinking it all over, sent a copy of the last balance sheet, showing us ahead about $300,000.

About twenty days before the goods entered the country we got the bill and a note at the bottom stating that trade was dull, accounts slow, and requesting a prompt remittance. Well, we don't like a dun very well. Therefore my sons telegraphed a Spanish house in New York, which had recommended us in the first place, to pay the bill and demand a receipt in full.

Now on the other side of the ocean they don't do so. They send the goods and go

about their business. When six months elapse, and the pay is not to hand, they write us that, as per agreement, they have balanced said purchase, and will debit us with 4 per cent. annual interest on the same until paid. They don't care for the money. They only wish it to be at work after the first credit has expired.

Another time one of your American commercial travelers sold the house a bill of some $200. The boys wrote out the exchange for the bill, but he said we might just as well pay it when due, some ninety days after shipment of goods. The goods came all right, but will you believe that we got some six or seven bills and duns from them?

They shipped the goods, say, the 28th, and sent ninety days' bill. The 30th they sent us a statement of our indebtedness, the end of the next month a third, the 30th of the next month a fourth, and the 28th of the next month a fifth, calling our attention to the fact that the above bill was due and unpaid. The 31st they threatened to draw on us at sight, and wrote us two or three times during the next month. Well, we had made every arrangement to pay the bill on time, but the first exchange was lost in the mail on the Mexican side by being washed away in crossing a full river. When we heard that it was probably lost there was still time for the second exchange to get there on time, so we sent it. Some of your American citizens, in the pursuit of their regular line of business, robbed the mail over there in Texas, and we never heard of the draft again. We did not hear of this second mishap for some time, and kept expecting that the next of the almost weekly duns from our New York friends would bring information of its receipt. After the bill had been overdue some twenty-five days we heard of the mail robbery in Texas, and, after telegraphing to learn facts, wired to our New York correspondent to pay the bill. Of course they gave us a receipt after awhile and expressed regret at the tone of their letters, wherein we were charged with all sorts of financial crookedness. Their man came around the next year and tried to smooth the affair over.

Now, if they are so anxious to sell to us, why not treat us decently? When they learn that a house is good and will pay, why send a dun in the shape of a monthly statement every few days? If they have no confidence in us, say so at first. We can, and now do, pay spot cash for nearly all we buy there.

One big house sold us a great many goods one year. Everything was paid when the bills of lading were delivered to our New York commision house, and yet one day we received a request for a statement of our condition. My son Henry, who is like his grandfather about your people, got mad, and informed them that as we paid spot cash it was none of their business.

Of course all your people are not like these samples. My oldest son, John, goes to New York every year or two and they use him very well. They take him to the opera and out to those summer resorts and show him the sights. He is invited out to dinner, and if he takes his family along they make it still pleasanter for him. He talks "United States" like a native and has a good time. He always buys in the United States when he can and would like to give more time and money to American goods, but the younger boy, Henry, won't let him. This second son, Henry, is the richest of all of us, married a Mexican lady, and does not speak English very well. He goes to Germany or France or Spain, but lets the English-speaking trade, especially American, alone all he possibly can.

Yes, I presume education has something to do with their opinions. When John was a young man, coming out here with his wife, he got to New Orleans and had to stay, because your General Butler, I think it was, would not let him leave. He staid there a year and got acquainted and formed some good business connections. Henry was educated till fourteen in Germany, and then he went to Cadiz and staid a year, and came here to go to work. All his English he has picked up here, and it is hard to learn your language. I don't know just why, but somehow he never liked your people. Perhaps he got his ideas from my father, who was very fond of him and left him a nice house in Germany. Henry sends all his children to Germany when they are old enough, six to twelve years, and they attend school there until ready to return to Mexico. But John—no; he sends his to the United States, some to a town in Kentucky, B., I think it is, and some go to New Jersey. They each have seven children, and the boys will be ready to take charge when they wish to leave off business. Henry will go back to Germany, but John thinks that when he quits he will move to the United States, to Cincinnati. He likes the railways, steamboats, and the noise and big houses of you Americans.

I suppose you think that you are going to get all this trade away from us Europeans with your railroads and your treaties and your "drummers." But I can't see it. We can make goods cheaper than you can. We have got to do it. You haven't any vessels to speak of, and your railroads can't compete with ocean freights except along the border. Then you don't go about business in the right way. You should have sent out good, sharp, level-headed boys ten or fifteen years ago. Put them into houses here where they might work for nothing for a few years. Let them learn the language, laws, customs, goods, &c., of the country. Then to the right sort extend a small credit and let them start in on a small scale. Let them marry in the country, get local interests, a foothold, and then hang on like grim death. Never let a house go down or lose the name

and good-will. Here we carry the name of a house established in the 20's, I believe, and it is pretty well known by this time.

One of your cattle-men leaves his money with us, takes a certificate of deposit, upon the back of which all payments or drafts are to be indorsed, and starts out to buy stock. "John Smith" died more than forty-five years ago, and his widow died twenty-five years ago, but the "successors to the widow of John Smith" have a name among all "rancheros" in this portion of Mexico. They will sell cheaper to those who show so good a credit, because they feel confident that if any dispute arises it will be settled fairly by us. They know us, know where our store is, and feel at home with us. Then, too, we sell lots of goods to "rancheros," and we buy stock of them to get our pay and to sell to the Texas people. Queer customs some of these "rancheros" have. And we have *to study those customs* and please them. Suppose you ask for something in a store and they do not have it, and the clerk tries to convince you that he has something different which will suit you much better. Now he may succeed, and he may annoy you and send you off in a huff. You have to study your man always.

Once, many years ago, my father sent me to the ——— country to buy 200 mule colts, to be delivered the next year at our place by the "rancheros." I paid the money down, $20 the pair, I think, and returned home. When the time came for them to be delivered they did not come. My father *would not allow us to write or send any message* He knew those "rancheros" were good men. Well, sir, just one year behind time they arrived with the mules. There had been a disease and a drought which had killed the colts the first year, and so they did not come. They had sent us no word, because it was so far and they did not remember the name. When I went out to count the colts I found that, by one of the unwritten laws of the country, they had brought *three mules for each pair*. When they waited a year, by reason of loss of stock, they always sent three in the place of and for the price paid for the pair.

Now that was our first purchase, and we did not talk about it much for several very good reasons, as we did not know the customs.

But my father *was too cautious to offend all those "rancheros"* by sending to see why his mules did not come according to promise.

One of your American business houses would have covered the whole district with statements of accounts; or an American stock-buyer would have kicked against the custom, saying that he wanted his stock, and that they did not have any such law or custom in *his* country. That's just it. Anything which differs from your laws is necessarily wrong. Nothing is good that is not modeled after your own pet institutions. Very good are all your laws, no doubt, though I believe you have a few bad men in office over there once in a while.

But Mexico has not formally asked you to come over here and make a fortune in her country. Your people are treated politely, and if they attend closely to business generally make some money. If things don't suit, why, of course, the road back to the United States is always there. Now the Germans and the Spaniards, the French and the English, who come over here find fault enough. But we don't make a fuss about it. We abuse things quietly and try to be on speaking terms with all men. We are not here as missionaries nor as political reformers, but to make money.

In the last four or five years many Americans have visited Mexico. Some come for their health, some for pleasure, some for business, and some because *"they have eaten something.'* Now we were glad to see them at first. They spent money freely and went everywhere. *Some* of them talked pretty loud in the streets and put on lots of style. They were going to open up mines and show what *they* could do. These people thought that mining could be carried on here as it is in the States, and that mining knowledge acquired in the West would immediately serve them here. You have to study both the people and mining here thoroughly before you know what you are doing. When some of them bought a mine they ordered costly machinery, put lots of money into the ground, and got out very little. Then, the laws were all wrong and they had rows with judges, collectors of customs, freightmen, and so on. When the railroads came was the worst. Rough men follow railroad building in the United States as a matter of course. But it was a new thing here, and so many loud-talking, aggressive Americans brought a feeling of dread to the Mexicans. They were uneasy. Then, when pay-day came and the American workmen got their pay and came in to town to get drunk they made trouble. When they got "full" they would capture the saloon, and, going out into the street, declare war formally on Mexico. In one case it was said that these drunken ruffians went so far as to select and point out the house which they would occupy when the Americans came, and informed the surrounding crowd of indignant Mexicans, in very bad Spanish, that "we licked you folks once and we can do it again."

These things do not sit well. Then, your newspapers made lots of trouble. I suppose the Mexican courts have their failings. We know it, but we try to get along the best way we can and not make any row. Of course some of your people got into trouble and there was lots of bad blood on both sides. One Mexican paper took up the cry against you Yankees and made a lot of money out of it. Some of those Texas papers had articles about Mexico, which were widely copied and made matters worse. I think that about every other one of your people write for the newspapers. Don't they?

Well, they come here and buy a blanket, some "*losa*" (crockery), ride around, see all the sights in two days, and when they return tell more lies than you can count about this country. Now the Mexicans are as thin-skinned as you Yankees were when Charles Dickens first visited you. Any criticism made you wince, and if it was true it made you extremely indignant. You have partly outgrown it now, because you are so big, so rich, and so powerful. But down here they don't like such things, neither do they understand that such things do not represent the sentiments of your people.

The Mexicans judge Americans by what they see of them. In one sense that is wrong, but it is a universal custom and cannot be very well helped. You have noticed that the individuals of a strange race all look alike. Well, more or less you Americans all look alike to the Mexicans. They cannot spot a fraud, nor can they tell what value to give to letters of introduction, and when they get bit once or twice it sours their disposition against the whole race.

Now as to letters of introduction. They are extremely valuable here when coming from one friend to another. For instance, I gave a letter to an American gentleman this morning who is going out into the Laguna country. There are no hotels, and that letter will get him shelter, hospitality of the warmest sort, mules, servants, guides, money, and a good letter to the next hacienda. But I have to be very careful to whom I give them. You may recollect that two or three days ago a gentleman named ——— called on you. Well, he had been here a week and had asked for letters to go out to ———. I was afraid to say yes or no. So when I heard you were coming I said to him that if he would bring me a note from you asking it I would *give him letters anywhere.* He tried you, I believe, but he never produced the note.

See what a mistake your people made about the "Zona Libre." At first, of course, it was hostile to American interests, and it was so intended; but since 1876 it has been in your favor.

Now let me tell you, whether you mention it or not, your reports about the Zona were the first that I ever heard of an American making that did not denounce it. You waited a long while and studied the subject carefully before you dared to risk your reputation by failing to denounce it. Just look at it now; you sell three-quarters of all the goods on this frontier. Extend the Zona along this border and every man can buy legally $2 where he before bought $1.

Of that increased sale and consumption your dealers will sell 75 per cent.; the other 25 per cent. will be European goods.

A "Zona Libre" at Vera Cruz would of course be a different thing, and help the United States and Europe about equally.

If you want this frontier trade, why does not your Government, which is so rich, pay Mexico, which is a poor country, $5,000,000 per annum, and let all American goods go into Mexico on this frontier free? Make it $10,000,000 if necessary, but get hold of this trade.

I have thus tried to give a fair summary of my friend's conversation. I do not indorse all he says, but in the main his opinions are such as are generally held. Many of these comments and opinons are entirely correct.

The main idea which I have tried to present is the story of this house. Its foundation was laid sixty years ago, and through all these years it has been firmly maintained. Revolutions have seemingly ruined it a dozen times, yet by credits, steady perseverance, and good judgment it has lived and flourished.

All the present partners have made a small fortune; have bettered their original condition. When they withdraw, younger but trained men from the same family will take up the work to make a fortune to enjoy in their old age.

There are other and quicker ways of getting trade here, and by these fortunes are sometimes made. But this method of starting out on a small scale, getting a local connection, taking root, as it were, here, and then holding on steadily, is, in the long run, the most certain.

I have not given names, and have made certain slight changes so as not to reveal the identity of the house. They have a horror of public mention, and I believe have never advertised until within the last few years.

WARNER P. SUTTON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Matamoros, March 14, 1884.

COMMERCIAL AND ECONOMICAL CONDITION OF ITALY.

REPORT BY CONSUL-GENERAL RICHMOND, FOR THE YEAR 1883.

Since making my report for the year 1882 the Italian exchequer has published further details of the foreign commerce for that year.

Table 1, compiled from this publication, shows the commerce of Italy with other nations in 1882:

TABLE 1.—*Commerce of Italy with other nations in* 1882.

Countries.	Imports.	Exports.
Austria	$36,732,632	$28,756,188
Belgium	2,924,160	3,064,647
France	80,686,645	89,135,820
Germany	16,311,202	14,100,194
Great Britain	57,347,441	17,644,201
Greece and Malta	1,327,840	2,431,028
Holland	3,399,309	1,488,960
Russia	6,088,571	4,350,220
Spain, Gibraltar, and Portugal	1,821,920	4,378,591
Sweden, Norway, and Denmark	980,054	401,826
Switzerland	8,914,670	24,869,066
European Turkey	4,512,533	2,493,367
Asiatic Turkey	1,858,397	179,876
English possessions	12,085,853	5,227,212
China and Japan	94,630	43,618
Egypt	2,819,537	3,739,761
Tunis and Tripoli	774,316	1,208,566
Algiers	513,380	1,406,198
United States and Canada	13,315,263	11,861,482
The States of the Plata	3,509,126	5,146,731
Peru and Chili	31,459	338,908
Other American countries	3,490,791	847,656

Table No. 2 shows the total commerce of Italy with the United States and Canada in 1882 compared with 1881, divided into sixteen classes adopted by the customs tariff. As in former years Canada is included in the United States in these returns; however, from the nature of the trade it is fair to suppose that it is mainly with the United States.

TABLE 2.—*Commerce of Italy with the United States and Canada in* 1882 *compared with* 1881.

Articles.	Imports.		Exports.	
	1882.	1881.	1882.	1881.
1. Spirits, wines, and oils	$3,417,000	$4,141,000	$1,121,000	$295,000
2. Groceries, spices, and tobacco	4,261,000	1,849,000	289,000	359,000
3. Chemicals, drugs, resins, and perfumery	599,000	1,043,000	1,069,000	609,000
4. Dyes, dye-stuffs, and materials for tanning	33,000	9,000	371,000	346,000
5. Hemp, flax, jute, &c	9,000	.....	57,000	162,000
6. Cotton	3,119,000	2,891,000	7,000	34,000
7. Wool and hair	740,000	230,000	261,000	193,000
8. Silk	.....	.....	65,000	120,000
9. Wood and straw	122,000	202,000	957,000	985,000
10. Books and paper	3,000	1,000	268,000	198,000
11. Skins, hides, and furs	97,000	464,000	17,000	43,000
12. Minerals and metals	54,000	25,000	140,000	208,000
13. Stone, earths, pottery, and glass	60,000	68,000	3,533,000	3,699,000
14. Cereals, flour, and vegetable products not elsewhere included	486,000	783,000	3,553,000	3,658,000
15. Animals, and animal products not elsewhere included	312,000	434,000	107,000	42,000
16. Miscellaneous	3,000	.....	49,000	49,000
Total	13,315,000	12,141,000	11,864,000	11,000,000

According to the statements of the Italian exchequer the chief articles of export from Italy to the United States and Canada in 1882 were as follows:

Chief exports from Italy to the United States and Canada in 1882.

Articles.	Quantity.	Value.
Wine:		
In wood ..... gallons..	341,026	$82,218
In bottles ..... bottles..	114,800	44,390
Olive oil ..... pounds..	6,294,688	661,218
Fixed oils ..... do....	427,700	35,512
Essence of orange and the like ..... do....	147,485	297,027
Candied fruit and preserves ..... do....	1,386,939	242,794
Mustard seed ..... do....	650,809	34,161
Spices ..... do....	40,063	10,422
Boracic acid ..... do....	1,743,397	122,362
Quinine ..... do....	14,546	464,937
Rock salt ..... tons..	38,363	83,376
Argols ..... pounds..	2,116,233	222,336
Wax matches ..... do....	195,992	39,565
Licorice root ..... do....	155,206	4,053
Herbs, leaves, roots, &c., medicinal ..... do....	206,574	17,949
Miscellaneous medicinals ..... do....	380,961	13,317
Common soap ..... do....	1,807,143	37,056
Wood, leaves, bark, &c., for dyeing and tanning:		
Not ground ..... do....	87,303	1,737
Ground ..... do....	16,760,555	367,472
Hemp, flax, jute, &c, raw ..... do....	306,224	23,546
Cordage ..... do....	109,350	11,387
Fabrics of linen and hemp bleached and unbleached ..... do....	38,360	11,194
Wool, raw ..... do....	94,138	37,056
Woolen fabrics ..... do....	220,243	173,700
Made-up articles for wearing apparel ..... do....	21,385	44,776
Raw organzine ..... do....	8,818	50,180
Silk fabrics ..... do....	1,009	7,141
Laces ..... do....	749	6,562
Barrels, new and old	.....	5,404
Furniture ..... pounds..	82,674	39,758
Straw hats ..... number..	2,611,800	916,486
Rags ..... pounds..	634,936	125,124
Paper pulp ..... do....	251,108	25,669
Blotting and wrapping paper ..... do....	126,787	5,597
Engravings and lithographs ..... do ..	4,409	5,404
Raw hides ..... do....	27,779	7,334
Gloves ..... pairs..	36,600	9,844
Iron ore ..... tons..	62,174	131,912
Jewelry and silverware ..... pounds..	182	5,597
Marble, black ..... tons..	42,401	450,076
Marble and alabaster:		
In statues ..... pounds..	93,797	24,704
Wrought ..... do....	35,075,161	921,189
Earths for dyes and paints ..... do	956,813	8,502
Cement ..... tons..	2,501	24,125
Sulphur, raw and refined ..... do....	96,463	2,085,172
Majolica ware ..... pounds..	174,387	13,475
Rice ..... tons..	1,028	73,340
Macaroni ..... pounds..	956,152	97,671
Bread and ship crackers ..... do....	119,270	5,211
Oranges and lemons ..... do....	149,727,849	3,019,292
Almonds, shelled ..... do....	477,525	62,725
Nuts and filberts ..... do....	3,510,668	184,415
Dried figs ..... do....	716,287	18,914
Raisins ..... do....	304,901	14,668
Oleaginous seeds ..... do....	1,300,958	52,619
Miscellaneous seeds ..... do....	1,203,072	47,478
Cheese ..... do	158,293	25,669
Unfinished hats ..... number..	13,808	72,568
Common haberdashery ..... do....	17,416	12,159
Fine haberdashery ..... do....	3,306	10,708
Articles for museums and collections	.....	24,704

According to the statements of the Italian exchequer the chief imports into Italy from the United States and Canada in 1882 were as follows:

Chief articles of import into Italy from the United States and Canada in 1882.

Articles.		Quantity.	Value.
Spirits, refined in wood	gallons	165,852	$78,744
Fixed oils	pounds	54,675	4,632
Petroleum and mineral oils, refined	do	131,311,885	3,333,689
Coffee	do	995,174	148,031
Sugar, raw	do	457,683	24,125
Syrup	do	17,637	579
Tobacco	do	39,065,338	4,053,016
Resins	do	5,252,454	597,721
Common soap	do	14,109	965
Dyes and dyestuffs:			
Not prepared	do	704,822	17,949
Prepared	do	62,832	5,983
Cordage	do	74,957	8,878
Cotton, raw, in bales	do	22,215,936	3,111,739
Cotton goods, bleached	do	6,613	2,802
Cotton prints	do	8,157	4,246
Raw wool, in bales	do	2,114,911	740,541
Wood for cabinet-makers	do	153,002	4,632
Hides, raw	do	346,789	82,025
Machines and parts of machinery	do	427,038	46,706
Clocks	number	474	3,667
Anthracite coal	tons	11,097	60,023
Wheat	do	2,192	104,027
Corn	do	10,301	337,943
Oats	do	133	4,825
Rice	do	575	34,933
Starch	pounds	28,439	1,837
Fish, dried and smoked	do	658,525	37,442
Grease	do	2,724,053	274,453

On examination of the foregoing statistics of imports and exports (trade with the United States and Canada) no changes are apparent deserving particular notice. The following observations are based on the trade for several years past. Since the successful efforts made during the Russo-Turkish war (1878–'79) to export wheat and corn from the United States direct to Genoa the trade has been kept up without much increase. The opening of the St. Gothard Railway, however, in 1882, gave it a fresh impulse, especially to Indian corn. The late important reduction of 4 lire ($0.76.12) per ton on railway transportation of cereals from Genoa via St. Gothard to Switzerland and Central Europe will still farther stimulate this trade. Imports of petroleum are apparently on the increase, due to the formation of large petroleum depots on the Island of Poveglia, in the port of Venice. The immunity of this island from fire has made it not only a bonded warehouse for Italian petroleum deposits, but also for those destined for Austria and Switzerland. These deposits for Switzerland were opened in 1882. Caspian petroleum is beginning to show itself at Venice, but the quality, as yet, is not to be compared with American oil.

Imports of American anthracite coal have almost disappeared. Begun in 1878 by the Philadelphia and Reading Coal and Iron Company, there was every hope of a considerable trade. This coal found favor for family use, for founderies and blacksmiths' furnaces. In 1880 the company recalled its agents, and those left in charge in Italy imprudently raised the prices and ruined the trade.

Since 1877 the general imports of coal of all kinds into Italy have nearly doubled, and thus show the mistake on the part of the Philadel-

phia and Reading Coal and Iron Company in abandoning such a promising field. With the disappearance of American coal the American stove trade has also come to an end.

Complaints have been made in the Italian Parliament as to the manner in which United States agents have purchased tobacco for the use of the company monopolizing the trade in Italy. Speculators informed in advance of the qualities of tobacco required in Italy, would buy up all that quality, and when wanted for the Italian market would sell at an advance of from 20 to 35 per cent.; afterward selling their surplus in America at fair prices. A few speculators have been able to control the whole trade with the United States. For this reason the Italian Government has recently been especially encouraging home production, particularly in Sicily in the Venetian highlands, and in the province of Sondrio.

The minister of finance has promised to radically change the manner of purchasing tobacco supplies in the United States.

As to cotton, of this staple only one-sixth of the quantity consumed in Italy comes directly from the United States; four-fifths comes from India and Egypt; the remainder is brought from Brazil under the French flag and indirectly from the United States. There seems to be no good reason why the United States should not only rule the Italian market, using about 65,000 tons of cotton, but also Switzerland, Southwestern Germany, and Southeastern France, countries that can be reached more economically via Genoa and the St. Gothard Railway than by way of the northern ports.

It would be well for Americans to remember that the cheapest and safest route for reaching Central Europe is by way of Genoa and the St. Gothard Railway, and that the Italian General Navigation Company, owning seventy-six steamers, is now running fast steamships, with fortnightly sailings, between New York and Genoa and other Italian ports. With increased trade the company possesses the means of putting on new steamers, making weekly sailings.

There are few or no changes in exports from Italy to the United States. Italian wines, however, appear to find favor there. It seems but reasonable that the United States should import pure Italian wines direct from Italy, rather than the same wine from France, adulterated and fortified, and watered. Wines direct from Italy can be procured at one-third of the cost of the same wines after having undergone the processes to which they are subjected in France.

COMMERCE IN 1883.

The total foreign commerce of Italy in 1883, exclusive of merchandise in transit, amounted to $497,847,732, of which $266,506,103 were imports and $231,341,629 were exports, an increase over 1882 of $6,822,164 in imports and $8,265,853 in exports.

Details of the share of the various nations in the Italian trade of 1883 and their part in the carrying trade are not yet obtainable. Pending their publication I give a table, numbered 3, showing the total commerce of 1883 compared with 1882, imports and exports, divided into sixteen classes, according to the Italian customs tariff.

TABLE 3.—*Foreign commerce of Italy in* 1883 *compared with* 1882.

	Imports.		Exports.	
	1883.	1882.	1883.	1882.
1. Spirits, wines, and oils	$11,514,714	$7,778,985	$37,683,895	$30,277,640
2. Groceries, spices, and tobacco	18,952,181	20,810,132	1,348,821	1,162,188
3. Chemicals, drugs, resins, and perfumery	8,753,058	7,832,317	8,641,059	8,019,345
4. Dyes and dye-stuffs, and articles for tanning purposes	5,077,641	5,192,195	2,599,855	2,031,150
5. Hemp, flax, jute, &c	7,077,004	6,668,751	8,676,658	7,660,893
6. Cotton	35,390,384	37,142,515	6,395,925	5,109,340
7. Wool and hair	19,582,668	18,296,380	2,029,578	1,961,496
8. Silk	17,454,459	18,074,369	59,026,742	62,427,353
9. Wood and straw	10,202,843	9,137,564	10,654,520	11,994,353
10. Books and paper	2,085,338	1,693,226	1,732,656	1,933,518
11. Skins, hides, and furs	10,650,491	10,108,603	4,375,824	3,943,109
12. Minerals and metals	49,154,605	52,855,863	7,749,914	5,665,726
13. Stone, earth, pottery, and glass	18,605,265	16,870,385	13,672,039	12,706,118
14. Cereals, flour, and vegetable products not elsewhere included	22,746,543	20,434,387	25,864,509	26,588,706
15. Animals and animal products not elsewhere included	19,648,318	18,353,740	38,475,040	39,218,804
16. Miscellaneous	9,607,591	8,434,527	2,414,594	2,376,037
Total	266,506,103	259,683,939	231,341,629	223,075,776

Comparing the most notable variations in the two years I find the differences to be attributed to the following causes:

Class 1, spirits, wines, and oils: The increase in imports was due to a projected law to raise the duty on spirits. The increase in exports was due to heavy sales for exportation, brought about by failures of speculators, who could not hold their stock until the passage of the law.

Class 2, groceries, spices, and tobacco: The Royal Monopoly Company, which carried on the exclusive manufacture and sale of tobacco in the Kingdom was dissolved on December 31, 1883, and on January 1, 1884, the Government resumed the working of this monopoly. Fewer imports of tobacco were made by the company, in order not to have too much stock on hand to turn over to the Government.

Class 5, hemp, flax, jute, &c.: Increased exports due to abundant yield of flax and hemp. Jute and linen goods made up the increase in imports.

Class 7, wool and hair: Increased imports due to the demands of home manufactures.

Class 8, silk: The falling off in exports in this class was in part due to lesser production, but chiefly to a new system adopted by the custom-house of calculating the actual net weight of silk, excluding any kind of packing. Formerly packing was included.

Class 9, wood and straw: Increased imports for railway constructions, and to replace the immense losses caused by the inundations in Northern Italy in September, 1882.

Class 12, minerals and metals: Imports of iron diminished. Italian founders made an extraordinary use of domestic scrap iron. Exports of mineral ores increased.

Class 13, stone, earths, pottery, and glass: Increased imports and exports due especially to Swiss and German goods brought into Italy through the St. Gothard Railway, where, after being retouched, they were exported as Italian products.

Other items varied from causes not ascertainable.

NAVIGATION.

The Italian Government has discontinued its publication of exhaustive navigation returns, giving the number of vessels entered and cleared at the various ports. Prior to 1882 these returns were published by the navy department. They are now given in a very condensed form in the publications of the treasury department. From these last published statements of the treasury department it appears that in 1882 general navigation returns were as follows:

FOREIGN NAVIGATION.

	Number.	Tonnage.	Merchandise loaded and unloaded.	Crews.
			Tons.	
Sailing vessels	23,198	2,501,420	2,137,983	157,483
Steamers	8,759	6,709,582	2,670,195	265,370
Total	31,957	9,211,002	4,808,178	422,853

COASTWISE NAVIGATION.

Sailing vessels	146,392	4,576,817	2,921,883	777,206
Steamers	41,249	18,282,885	1,860,872	1,073,038
Total	187,641	22,859,702	4,782,755	1,850,244
Total of foreign and coastwise	219,598	32,070,704	9,590,933	2,273,097

I regret not being able to show the exact business of shipping according to flags in that year, as this statement is still under preparation by the Government. It is, however, so far advanced as to show that of foreign flags Austria takes the lead, followed by Greece, England, France, Germany, and other countries. In a probable total of over two thousand foreign sailing vessels the United States has only 12, that is 6 per thousand.

In tonnage of sailing vessels under foreign flags England stands first, Greece second, followed by Austria, France, Germany, and others, leaving 6,000 tons of actual cargo to the United States flag.

As to steamers under foreign flags England is far ahead of all other nations, both in number and tonnage, doing more than half of the entire trade. France follows next, and then comes Austria, Germany, Greece, and others, but the flag of the United States is not represented.

MERCANTILE MARINE.

On January 1, 1882, the Italian mercantile fleet was made up of 7,815 vessels, aggregating 989,057 tons, of which 176 were steamers of 93,698 tons, and 7,639 were sailing vessels of 895,359 tons.

Since 1873 the increase in steamers has been 43 in number and 45,125 in tonnage. During this period there was a falling off of 3,309 in the number of sailing vessels, that is, nearly one-third of the total number, but the decrease in tonnage was only about one-tenth of the total.

Steamers and large sailing vessels are gradually replacing the smaller craft. In 1873 there were only 4 sailing vessels and 6 steamers, gauging 1,000 tons and over, while in 1883 there were 17 steamers averaging 1,200 tons each, and 37 steamers averaging 1,800 tons each.

The principal ship-building yards for large vessels of the mercantile marine are along the Ligurian coast, at Leghorn, and in the Neapolitan waters. The smaller vessels are constructed in nearly all the ports of the Kingdom.

During the last three years there has been a constant falling off in the importance of the construction of merchant vessels. On the other hand there has been a most notable increase in the building of war vessels.

Merchant vessels launched from Italian ship-yards in 1880, 1881, *and* 1882.

	1880.	1881.	1882.
Number of yards	50	48	41
Number of vessels	269	263	228
Tonnage	21,213	20,526	14,556
Value of hull	$1,115,683	$816,293	$610,111
Average value of each vessel	$4,147	$3,114	$2,521

The number of persons engaged in marine occupations in Italy is comparatively greater than in any other country except Great Britain, although since 1877 there has been a constant falling off in the number of men employed, amounting to a total of 34,000.

On January 1, 1883, there were inscribed on the marine rolls of Italy 6,878 masters, 4,201 first officers, 7,578 second mates, 394 engineers, 952 firemen, 88,298 seamen and boys, 43,605 fishermen, including coast and deep-sea fisheries, 9,207 watermen, 282 pilots, 262 naval constructors, and 14,577 carpenters, caulkers, iron workers, &c., making a total of 176,234.

FISHERIES.

The number and tonnage of vessels employed in deep-sea fisheries in 1882 compared with the two preceding years were:

	1880.	1881.	1882.
Fisheries:			
Number of vessels	785	799	1,074
Tonnage	7,111	7,768	8,588
Coral fisheries:			
Number of vessels	40	574	591
Tonnage	3,471	4,810	3,239
Sponge fisheries:			
Number of vessels	26	23	26
Tonnage	517	455	523

The coast of the Kingdom is divided into six fishing districts; the deep-sea fisheries are understood to be conducted outside these districts, or in foreign waters. The total number of men engaged in deep-sea fisheries on January 1, 1883, was 38,790.

There are no official or reliable statistics of lake or river fisheries.

CROPS.

The approximative quantities of the chief agricultural products harvested in 1883, compared with the harvest of 1882, were:

	Surplus left from preceding season.	Quantity harvested.	Percentage to average crop.
Wheat.			
1882.....bushels..	4,467,959	154,968,334	107½
1883..... do....	5,861,180	124,214,443	86¼
Oats:			
1882.....do...	408,184	16,794,760	88½
1883.....do....	478,847	15,593,497	82
Indian corn:			
1882.....do....	1,668,820	75,189,601	84
1883.....do....	1,356,179	75,525,890	85¾
Peas, beans, and lentils:			
1882.....do...	105,643	4,448,521	63¾
1883..... do....	105,963	5,035,929	71½
Fave, lupins, and chick peas:			
1882.....do....	120,849	7,003,408	73
1883.....do...	188,915	7,131,126	74¾
Potatoes:			
1882..... do....	61,235	16,824,351	82¾
1883.....do....	68,824	16,286,620	80
Hemp.			
1882.....pounds..	4,961,101	152,894,430	85
1883.....do...	11,521,479	161,853,646	90
Flax:			
1882.....do....	10,955,958	46,555,603	89¾
1883..... do....	3,660,364	39,522,802	76½
Silk cocoons:			
1882.....do....	.....	83,120,100	.....
1883.....do....	.....	93,055,170	108½

Olives were abundant in Liguria and Tuscany but short in the Puglia. Oranges and lemons also gave a short crop, but no figures for either olives, oranges, or lemons are yet obtainable.

The grape crop yielded 751,220,229 gallons of wine.

The product of silk cocoons was said to be generally abundant and superior to that of 1882. Seeds of the yellow indigenous kind were preferred for breeding and gave the most satisfactory results both in quality and quantity. Very few Japanese eggs were used. Prices in general ruled low and were less than those of 1882. This was due both to the abundant yield and a general stagnation prevailing in the silk trade.

Only a few districts have yet been infected by phylloxera. The Government still continues to apply the destructive system, which so far has been found the only preventive. The infected provinces in 1883 were in the north, Porto Maurizio, Como, and Milan, where two thousand infected stocks were destroyed, on an area aggregating a few hundred acres; in the South, Reggio di Calabria (no area given), in the Island of Sicily, the provinces of Messina, Cattanisetta, and especially in that of Catania, at a town called San Cocco, no area given. In the Island of Sardinia the communes of Sassari, Sorso, Senori, and Uzimi were found to have an aggregate of 370½ acres of vineyards suffering from the parasite.

Note must here be made of an important law enacted by Parliament in 1883, namely, the law providing for the reclamation of the Roman Campagna, for a zone of 6¼ miles in breadth, measuring from the walls of Rome. Thus the gradual return of this vast tract to its ancient salubrious condition, which has been for many years the aim of the rulers of Rome, would appear at last to have a strong promise of success.

LIVE STOCK.

The most recent statistics of live stock are as follows:

	Number.
Horses	657,544
Mules	273,868
Asses	674,246
Horned cattle	4,783,232
Goats	2,016,307
Sheep	8,596,108
Swine	1,163,916

Italy is still behind most European countries in the number of horses, a state of things that has long occupied the attention both of the Government and economists. Besides being of the highest importance in the development of the agricultural interests of the country, horses are one of the essential elements of military power.

The Government is now directly encouraging the breeding of horses, and for this purpose keeps 417 stallions of pure blood distributed among 17 breeding stations established in various parts of the kingdom.

Out of the total number of horses 29,324 belong to the army, and 2,193 to members of the royal family. Of these latter 52 are stallions and 576 mares, all of high breeds and all especially kept for breeding purposes.

The horned cattle of Italy are adapted for the three purposes of draught, milk, and meat.

Of the total number of goats, 1,881,444 are she-goats, and of sheep, 7,708,000 are ewes, both kept for milk or cheese. Cheese made from ewes' milk is a most important item in Italian dairy economy, especially in the central and southern portions of the kingdom. The sanitary condition of live stock was generally satisfactory during the year.

MINES AND MINING.

Table 4 gives the most recent official statistics of mines and their products.

The kingdom is divided into ten mining districts each of which is under the jurisdiction of a royal engineer dependent on the chief inspector of mines at Rome. Their duty is to report and correspond officially, not only to their immediate superiors, but also to the minister of agriculture and with the provincial and municipal officers within their districts.

TABLE 4.—*Statement showing the products of the mines (latest returns).*

Years.	Iron ore.				Manganese.				Copper.			
	Mines at work.	Quantity.	Value.	Miners employed.	Mines at work.	Quantity.	Value.	Miners employed.	Mines at work.	Quantity.	Value.	Miners employed.
		Tons.				*Tons.*				*Tons.*		
1877	44	229,732	$556,285	1,830	10	6,812	$40,597	667	12	24,173	$362,503	1,460
1878	36	189,721	457,437	1,591	9	6,655	48,256	636	11	22,682	312,337	1,421
1879	44	186,857	420,221	1,436	7	5,705	35,065	659	13	20,751	222,145	1,366

TABLE 4.—*Showing the products of the mines, &c.*—Continued.

Years.	Zinc.				Lead.				Silver (argentiferous ore).			
	Mines at work.	Quantity.	Value.	Miners employed.	Mines at work.	Quantity.	Value.	Miners employed.	Mines at work.	Quantity.	Value.	Miners employed.
		Tons.				*Tons.*				*Tons.*		
1877....	23	88, 844	$900, 020	4, 055	38	36, 910	$2, 075, 862	6, 588	4	661	$194, 381	712
1878....	31	68, 703	631, 251	2, 701	44	36, 512	1, 967, 094	5, 453	4	1, 041	271, 914	897
1879....	32	73, 411	781, 002	3, 053	41	41, 501	1, 660, 064	4, 625	4	1, 409	319 121	758

Years.	Coal, lignites, &c.				Sulphur.				Boracic acid.			
	Mines at work.	Quantity.	Value.	Miners employed.	Mines at work.	Quantity.	Value.	Miners employed.	Mines at work.	Quantity.	Value.	Miners employed.
		Tons.				*Tons.*				*Tons.*		
1877....	23	120, 588	$242, 728	1, 314	289	260, 325	$5, 372, 344	21, 158	13	2, 607	$431, 520	400
1878....	21	124, 117	245, 108	1, 388	312	305, 142	6, 110, 584	23, 147	13	3, 448	551, 008	400
1879....	24	131, 318	256, 212	1, 616	296	376, 316	7, 291, 507	27, 526	13	2, 505	400, 896	400

The following productions reported for the year 1879 only, being so unimportant were omitted from the foregoing table:

	Value.
Petroleum	$10, 000
Gold	83, 304
Quicksilver	131, 571
Antimonium	20, 007
Tin	1, 915
Iron pyrites	9, 200
Rock salt	118, 510
Bitumen	95, 674

RAILWAYS.

On January 1, 1883, the total length of Italian railways open to traffic was 5,746 miles.

These railways were at that time divided into the following lines:

	Miles.
North Italian	2, 331
Roman	1, 048
Southern	984
Calabrian and Sicilian	833
Sardinian	249
Western Sicilian	120
Milan, Saronna and Erba	42
Vicenza, Treviso and Schio	88
Conegliano and Nittorio	9
Turin and Lanzo	19
Turin and Rivarolo	8
Settimo and Rivarolo	14
Total length of lines January 1, 1883	5, 746

For the same period the railways were worked as follows:

	Miles.
State railways worked by the Government	2,762
State railways worked by private companies	926
Private railways worked by Government	618
Private railways worked by private companies	1,440
Total	5,746

The total cost of railways up to January 1, 1883, was $488,026,323 (being an average of $59,482 per kilometer construction), and $49,868,865 for rolling stock.

Railway receipts for the year ending January 1, 1883, were as follows:

Transportation.	Receipts.	Description.	Number of employés.	Expenditures.
Passengers	$15,435,567	Administration and working of lines	3,130	$2,335,884
Fast freight	4,175,408	Repairs on roads	26,815	8,038,009
Slow freight	16,994,178	Traffic	24,812	8,135,490
Miscellaneous	632,060	Traction and rolling stock	15,811	8,307,024
Total	37,237,213	Total	70,568	26,816,407

During the year the railway companies purchased the following domestic and foreign rolling stock:

Locomotives:	
Italian	26
Foreign	75
Passenger cars:	
Italian	178
Foreign	90
Freight cars:	
Italian	1,891
Foreign	200

Considerable efforts are now being made to encourage the building of domestic rolling stock.

The following statement of rolling stock purchased during the six months ending July 1, 1883, will show the increase in this branch of Italian industry:

Locomotives:	
From Italian builders	44
From foreign builders	69
Passenger cars:	
From Italian builders	357
From foreign builders	12
Freight cars:	
From Italian builders	945
From foreign builders	350

Up to December 31, 1883, few of the new railways projected by act of Parliament in 1879 had been constructed. There was only a slight increase of 260 miles in 1883, making the total length of lines open to traffic on December 31, 1883, 6,006 miles.

POSTS.

The business done by the Italian post-office department for the year ending December 31, 1882, may be briefly stated as follows:

Postage-stamps	$4,334,579
Postal cards	570,789
Stamps for marking short-paid letters (segnatasse)	457,267
Miscellaneous receipts	940,916
Total	6,303,551

This statement includes the business of the five Italian post-offices in foreign countries, located at Alexandria, Tripoli, Tunis, La Galetta, and Susa.

All the post-offices in the Kingdom, numbering 3,488, are now authorized to receive small savings on deposit.

The business transacted by the post-office savings-banks for that year and since the opening of this branch of the service in 1876 was as follows:

	Business done in 1882.	Business since their opening in 1876.
Number of bank-books issued	143,709	660,049
Number of bank-books canceled	23,565	68,811
Number of deposits	854,321	2,300,753
Number of deposits withdrawn	666,363	1,464,305
Amount of deposits	$16,114,138	$51,980,272
Amount of deposits withdrawn	$13,148,760	$36,872,858

The total expenditures of the post-office department in 1882 amounted to $5,513,736, an excess of $186,805 over the preceding year, leaving a profit of $781,660 to the Government.

TELEGRAPHS.

The public telegraph lines are all owned and worked by the Government. For the year ending January 1, 1883, the working of these lines was as follows:

Length of lines	miles..	17,258
Length of wires	do...	58,624
Length of submarine cable	do...	109
Offices	number..	1,716
Employés	do...	5,451
Machines (Morse and Hughes)	do...	2,768
Semaphoric stations	do...	31
Private dispatches sent in the Kingdom	do...	5,190,909
Private dispatches sent to foreign countries	do...	521,180
Government dispatches sent	do...	539,504
Dispatches received from abroad	do...	565,345
Dispatches in transit	do...	203,349

The total receipts of the telegraphs for the year were $2,416,202, of which $1,759,956 were received for private dispatches, and $636,371 for Government dispatches.

The total expenditures during the year amounted to $1,663,400, leaving a net profit of $752,793 on this telegraphic service.

EMIGRATION.

No official statements relative to emigration in 1883 are yet available; 158,338 Italians emigrated in 1882; 93,930 to countries in Europe, 7,773 to African countries, 56,471 to North and South America, 18,593 went direct to the United States, being 11.56 per cent. of the total number of emigrants for that year, and 164 went to other countries.*

The total emigration according to countries in 1882 was as follows:

Austria	12,101
Hungary	8,329
Switzerland	8,476
France	53,037
Belgium and Holland	271
Germany	7,662
Great Britain	512
Sweden, Norway, and Denmark	12
Russia	218
Spain and Portugal	1,252
Servia, Roumania, Greece, and Turkey	1,512
Other European countries	548
Total for Europe	93,930
Egypt	2,213
Tunis	2,235
Algiers	3,325
Total for Africa	7,773
United States	18,593
Canada	76
Mexico and Central America	3,255
West Indies	55
Chili and Peru	535
Colombia and Venezuela	431
Brazil	9,071
Paraguay	724
Uruguay	804
Argentine Republic	22,927
Total for America	56,471
Other countries	164
Grand total	158,338

CAUSES OF EMIGRATION.

The following will explain the causes which determine emigration from Italy:

On the 30th of October, 1882, the Government issued a circular inviting the prefects of the Kingdom to furnish precise information as to the causes of emigration from their respective provinces and its effects on the economical condition of the country. Categorical answers were asked to the following questions:

1. Are people driven from the country by destitution alone, or are they influenced by speculators interested in marine transportation, or by the paid agents of foreign Governments or colonization companies?

* Since this report was written the bureau of statistics has published some figures for 1883 which makes the total number of emigrants for that year 100,685.

2. Is it true that in many instances entire families of small peasant land-owners sell all their possessions to enable them to emigrate?

3. What positive and practical effect has this emigration produced on wages, on the money value of land, and, in general, on the agricultural economy of the commune or province during the last ten years?

4. What changes in the direction of emigration have taken place during the decade?

5. To what classes of society do emigrants from the rural districts belong; are they land-owners, farmers, or laborers who emigrate for want of employment?

The answers of the prefects were nearly unanimous in ascribing emigration to three causes, viz: Destitution, lack of work, and a natural desire to improve their condition. In the case of the United States the large number of Italians who have there found what is for them lucrative employment on railway construction and public works has greatly influenced the current of emigration in that direction during the past ten years; the steamers of the Italian General Navigation Company, now plying between the Italian ports and New York, have also influenced considerably in increasing the number of emigrants, especially from the southern portion of the Kingdom.

Nine-tenths of the emigrants to all countries are now drawn from the rural districts. Those from the highlands are small peasant proprietors, and those from the lowlands are generally farm laborers.

Emigration is as yet not sufficiently great to affect the economical condition of the country.

POPULATION.

Table No. 5 gives certain statistics of the population of the Italian Kingdom in 1871, 1880, and 1881.

These figures are compiled from the latest official documents based on the last census taken December 31, 1881, now in course of publication by the bureau of statistics:

TABLE No. 5.—*Statistics of the population of Italy in* 1871, 1880, *and* 1881.

	Population.		Increase.		Number of marriages.	
	1881.	1871.	For the ten years.	Annual, per 1,000.	1881.	1880.
Piedmont	3,067,050	2,899,564	167,486	5.78	23,615	22,639
Liguria	894,198	843,812	50,386	5.97	6,333	5,854
Lombardy	3,681,990	3,460,824	221,166	6.39	27,729	25,922
Venetia	2,814,178	2,642,807	171,366	6.48	18,400	16,556
Emilia	2,183,391	2,113,828	69,563	3.29	14,945	13,910
Umbria	572,060	549,601	22,459	4.09	4,169	3,193
Marche	939,279	915,419	23,860	2.61	7,473	6,606
Tuscany	2,208,869	2,142,525	66,344	3.08	17,055	14,415
Rome	903,472	836,704	66,768	7.98	7,016	5,134
Abruzzi and Molise	1,818,339	1,282,982	35,357	2.76		
Campania	2,895,453	2,754,592	140,861	5.11		
Puglie	1,589,064	1,420,892	168,172	11.74	72,327	57,019
Basilicata	524,504	510,543	13,961	2.80		
Calabria	1,257,883	1,206,302	51,581	4.28		
Sicily	2,927,901	2,584,099	343,802	13.34	26,088	20,715
Sardinia	682,002	636,660	45,342	7.12	4,933	4,784
Total	28,459,628	26,801,154	1,658,474	6.19	230,143	196,738

TABLE No. 5—*Statistics of the population of Italy, &c.*—Continued.

	Number of births, exclusive of still-born.		Number of deaths.			
	1881.	1880.	1881.		Annual average from 1872 to 1880.	
			Males.	*Females.*	*Males.*	*Females.*
Piedmont	111, 231	103, 761	39, 628	37, 780	40, 459	39, 034
Liguria	30, 210	27, 265	11, 359	11, 152	11, 870	11, 412
Lombardy	138, 978	128, 467	51, 361	49, 168	54, 249	51, 684
Venetia	103, 970	88, 199	35, 745	34, 285	39, 155	37, 403
Emilia	79, 709	69, 443	29, 888	28, 207	32, 857	31, 480
Umbria	21, 203	16, 431	7, 643	7, 368	8, 010	7, 716
Marche	35, 181	30, 593	12, 750	12, 430	13, 579	13, 328
Tuscany	82, 752	68, 319	28, 355	27, 612	34, 377	32, 986
Rome	31, 298	26, 676	16, 136	13, 876	15, 670	13, 079
Abruzzi and Molise	302, 035	267, 544	19, 474	19, 101	21, 686	21, 113
Campania			46, 926	45, 157	45, 299	43, 248
Puglie			23, 127	22, 227	24, 224	22, 506
Basilicata			8, 161	7, 827	9, 423	8, 869
Calabria			17, 984	17, 546	19, 983	18, 830
Sicily	119, 718	107, 585	42, 300	40, 853	41, 283	38, 743
Sardinia	24, 840	23, 707	9, 533	8, 947	10, 660	9, 884
Total	1, 081, 125	957, 909	400, 665	388, 516	422, 824	401, 215

CURRENCY AND BANKING.

The total of money coined from the year 1870 to January 1, 1883 amounted to $156,493,350, of which $11,580,000 were in gold coin, $66,141,567 in silver, and $78,771,785 in copper coin.

From the first issue of paper money in 1870, when $171,276,038 were placed in circulation, paper currency gradually increased until in 1870 it reached a maximum of $325,970,878. During the following year, 1881, owing to a prospective resumption of specie payments, actually effected in 1883, the circulation decreased by $1,895,000, and on January 1, 1883, the total of paper money in circulation amounted to $264,881,563.

This paper currency has been issued by a syndicate of six banks.

The fluctuation in the chief business of these banks may be appreciated from the following statement numbered 6:

TABLE No. 6.—*Discounts and loans made by the six Italian banks of issue from January 1 1877, to January 1, 1883.*

DISCOUNTS.

	The National Bank.	The National Bank of Tuscany.	The National Tuscan Bank of Credit.	The Roman Bank.	The Bank of Naples.	The Bank of Sicily.	Total.
Capital paid up	$28, 950, 000	$4, 053, 000	$965, 000	$2 895, 000	$9, 408, 750	$2, 316, 000	.....
1877	203, 731, 310	27, 415, 955	5, 907, 688	21, 413, 169	34, 958, 946	13, 862, 426	$306, 789, 492
1878	214, 505, 887	26, 636, 764	7, 147, 701	24, 248, 756	31, 895, 151	10, 296, 986	314, 721, 245
1879	197, 898, 258	28, 443, 284	4, 361, 777	22, 572, 147	33, 820, 732	9, 503, 392	296, 599, 590
1880	222, 103, 729	32, 455, 253	7, 699, 061	24, 260, 776	49, 149, 407	13, 624, 885	349, 293, 111
1881	246, 798, 146	37, 205, 741	6, 373, 618	21, 632, 460	48, 939, 496	13, 986, 403	374, 935, 864
1882	294, 888, 543	29, 281, 278	4, 069, 168	24, 296, 295	67, 834, 847	18, 455, 206	438, 825, 337

LOANS.

1877	$18, 855, 370	$1, 571, 184	$9, 587, 345	$330, 692	$10, 219, 193	$2, 630, 068	$43, 193, 852
1878	17, 269, 124	1, 094, 151	5, 532, 710	454, 422	12, 421, 161	2, 454, 225	39, 225, 793
1879	15, 105, 215	1, 195, 168	4. 694, 155	343, 356	13, 261, 311	2, 843, 189	37, 442, 394
1880	23, 173, 125	859, 286	8, 805, 222	726, 692	26, 199, 658	3, 595, 509	5*, 359, 492
1881	27, 502, 256	494, 402	13, 454, 555	249, 922	44, 699, 359	3, 061, 797	89, 462, 291
1882	19, 034, 265	684, 714	5, 123, 378	225, 299	22, 221, 450	4, 769, 750	52, 058, 856

TABLE No. 7.—*Statement showing the number of private banks, and their condition, from January 1, 1877, to January 1, 1883.*

CO-OPERATIVE BANKS.

Year beginning January 1—	Number of banks.	Nominal capital.	Subscribed capital.	Assets.	Liabilities.
1877	111	$7,228,932	$7,923,870	$42,383,598	$44,727,167
1878	118	7,623,667	7,373,096	46,883,245	46,179,322
1879	123	7,778,687	7,634,470	52,017,540	51,244,120
1880	133	7,921,223	7,798,985	54,684,454	53,893,249
1881	140	8,008,374	7,854,594	58,106,830	57,335,905
1882	171	8,564,608	8,383,726	63,074,420	61,943,996
1883	206	9,273,670	9,084,100	69,572,369	68,622,385

ORDINARY BANKS OF CREDIT.

Year beginning January 1—	Number of banks.	Nominal capital.	Subscribed capital.	Assets.	Liabilities.
1877	111	$81,421,174	$71,681,487	$178,829,547	$178,360,851
1878	108	66,199,117	51,949,597	184,507,459	182,996,939
1879	102	65,085,280	55,968,166	209,964,131	217,721,661
1880	101	51,978,520	50,217,943	206,659,750	206,948,699
1881	107	68,338,272	57,031,061	231,803,767	218,356,631
1882	112	71,877,603	65,365,455	244,573,457	241,406,101
1883	115	79,409,682	66,872,470	262,447,862	259,762,459

FARMERS' BANKS.

Year beginning January 1—	Number of banks.	Nominal capital.	Subscribed capital.	Assets.	Liabilities.
1877	12	$3,145,900	$2,645,664	$7,634,987	$7,539,738
1878	12	2,200,200	1,841,428	7,557,258	7,457,696
1879	12	2,451,100	2,357,668	8,281,314	8,154,119
1880	12	2,200,200	2,108,892	9,072,099	8,954,994
1881	13	2,267,750	2,255,967	10,414,598	10,297,651
1882	13	2,296,700	2,286,317	10,811,678	10,701,034
1883					

BANKS FOR LOANS ON MORTGAGES. (Banche di Credito Fondeario.)

Year beginning January 1—	Number of banks.	Nominal capital.	Guaranties and mortgages.	Assets.	Liabilities.
1877	8	$3,570,500	$65,385,682	$31,874,032	$31,811,485
1878	8	3,811,750	42,487,027	36,990,186	36,908,180
1879	8	3,811,750	79,616,314	42,286,282	42,139,222
1880	8	3,811,750	91,253,189	48,713,063	48,586,575
1881	8	3,811,750	101,493,817	54,373,078	54,245,606
1882	8	3,811,750	110,751,534	59,902,308	59,759,553
1883	8	3,811,750	122,676,931	65,210,045	64,642,586

The capital of co-operative banks is supposed to be made up by the contributions of small traders, but actually large capitalists control them through the great number of shares owned by them. These banks make limited loans to their share holders.

Ordinary banks of credit receive deposits and make loans on checks, goods, real estate, corporation stocks, &c., and transact ordinary banking business for depositors.

Banks for loans on mortgages (banche dicredito fondiario) make loans on mortgages, on real estate, and Government bonds.

Operations of the farmers' banks consist in making loans on products of the soil, stock, &c.

The number and business of ordinary savings-banks and their branches from the year beginning January 1, 1877, to January 1, 1883, was:

Year beginning January 1—	Number of banks.	Number of bank-books.	Amount of deposits.
1877	351	833,760	$106,681,615
1878	354	880,022	110,791,615
1879	357	886,947	116,221,370
1880	358	925,466	126,765,003
1881	357	958,044	132,151,264
1882	355	997,026	137,957,452
1883			

The post-office savings-banks are doing much to encourage small savings among the poorer classes. At the same time they prevent the ordinary savings-banks from imposing excessively low rates of interest.

The importance of business done by the post-office savings-banks is shown under the head of "Posts."

STOCK COMPANIES.

The most recent statistics of stock companies are for 1882. In that year there were 716 stock companies of all kinds doing business in the Kingdom, having an aggregate total capital amounting to $459,428,522.

Of these companies, 560 with an aggregate capital of $330,495,451 were Italian, and 76 with an aggregate capital of $128,933,071 were foreign.

The character of these stock companies and the division of capital among them was as follows:

	Number.	Capital.
ITALIAN.		
Banks of issue	6	$49,215,000
Co-operative banks	171	8,810,714
Ordinary credit companies	113	71,855,323
Farmers' banks	11	1,910,700
Insurance companies	30	20,275,615
Railway companies	34	102,706,501
Mining companies	28	9,464,267
Miscellaneous companies	249	66,257,241
Total Italian companies	640	330,495,451
FOREIGN.		
Insurance companies	38	64,639,946
Miscellaneous companies	38	64,293,125
		128,933,071
Grand total, including Italian and foreign	716	459,428,522

PUBLIC DEBT.

On the 1st of January, 1883, the Italian debt was made up of the following liabilities, amounting to $1,903,898,634, bearing an annual interest of $90,734,790:

	Debt.	Interest.
I. Funded debt inscribed in the Great Book at 5 per cent	$1,662,813,686	$82,368,668
II. Funded debt inscribed in the Great Book at 3 per cent	44,680,743	1,336,202
III. Bonds at 3 per cent. and 5 per cent. to be inscribed in the Great Book.	1,793,663	90,527
IV. Bonds standing in the name of the Holy See at 5 per cent	12,448,500	622,425
V. Debts specially inscribed in the Great Book at from 3 per cent. to 5 per cent	113,509,751	5,278,591
VI. Miscellaneous debts at various rates of interest	68,652,291	1,138,372
Total	1,903,898,634	90,734,790

The fourth item consists of inalienable bonds created by the law of May 13, 1871, known as the law of "guarantees." By this law it was established that the nominal capital of $12,448,500 in bonds bearing interest at 5 per cent. should be inscribed in the Great Book in the name of the Holy See, and that the interest, amounting to $622,425, should be the annual dotation of the Pope. This dotation, however, has up to the present never been collected, and consequently it reverts to the Italian treasury.

Item V includes various bonds and obligations contracted by governments which politically divided Italy in former times. On the unification of the country these debts were assumed by the present Government.

Item VI comprises obligations contracted by the Government for works of public utility, such as railways, canals, the reclaiming of waste lands, &c.

STATE REVENUES AND EXPENDITURES.

The total actual revenue of the Government for the year ending December 31, 1883, was $302,556,729, and the total expenditures for the same year were $296,688,501.

The budget items of revenues and expenditures were as follows:

ORDINARY REVENUES.

I.—Revenues for State property	$5,078,554
Direct taxes	74,035,393
Business taxes	35,659,808
Customs and octroi, taxes on grist, spirits, beer, gunpowder, sugar, &c., and the tobacco and salt monopolies	94,597,865
State lottery and various taxes	14,184,476
State railways, posts, telegraphs, &c.	25,281,274
Reimbursements	3,852,470
Various revenues	1,874,557
	254,564,397
IV.—Drawbacks	19,174,737
Total ordinary revenue	273,739,134

EXTRAORDINARY REVENUE.

I.—Revenue from State property	$1,476
Contributions	6,273
Reimbursements	974,720
Various receipts	45,442
Extras	129,382
Total	2,157,293
II.—Sale of property	4,790,647
Recuperated credits	8,363
Debts paid	3,253,453
Various receipts	6,211,001
Total	14,263,464
Construction of railways	17,222,125
Total extraordinary revenue	28,817,589
Total of ordinary and extraordinary revenue	302,556,729

The item of $17,222,125, under railway construction, is made up of sums returned which were advanced for railway construction on account of the budget of public works, and the reimbursements of moneys loaned in the name of communes and provinces for their share in the new railway construction.

EXPENDITURES.

Ministry of the treasury	$145,016,376
Ministry of finance	26,232,325
Ministry of grace and justice	6,522,869
Ministry of foreign affairs	1,354,769
Ministry of public instruction	5,926,828
Ministry of the interior	11,681,256
Ministry of public works	38,474,105
Ministry of war	48,097,476
Ministry of navy	11,035,472
Ministry of agriculture, industry, and commerce	2,346,753
Total expenditure	296,688,501

MANUFACTURES AND GENERAL COMMERCE.

It was only after the first national exhibition of Italian products at Milan, in 1881, that the Government became aware of the actual progress made by home manufactures and industries. Since that time laws have been enacted for the production of home manufactures by customs duties; for the protection of manufacturers' trade-marks at home and abroad, and for the protection of workmen against their employers in case of accidents, and in the establishment of a plan for insuring the working classes against abandonment in old age and infirmity.

There are no statistics of Italian manufactures, but their progress, especially in the past few years, is evident. In my annual report for 1882 mention was made of an inquiry instituted in the interest of the mercantile marine. The exhaustive report of this committee proved that though Italy has a total lack of fuel, still there is an abundant supply of the best quality of iron ore, and that with Italian cheap labor, and with the flux and ore at hand, pig-iron can be produced in Italy cheaper than the Eglinton or Cumberland pig-iron can be placed at the ports of Genoa and Leghorn.

The main result reached by this committee has been the recommendation of protection to Italian ship-builders, engine-builders, and boiler-makers.* It is now proposed to pay ship-builders $11.58 per gross ton for every iron hull built in Italy; $11.58 per engine, indicated horse-power, and $19.30 per ton weight of boiler—at the same time, however, abolishing the drawback on the tax paid for customs duties on iron, steel, and other materials employed in ship-building. This proposal does not satisfy Italian builders, who, in addition to the proposed Government bounties on construction, claim the continuance of exemption from duties on raw materials imported for their use.

In further observing the improvement and progress in Italian industries and manufactures, the official statements of imports and exports are, according to the views of the distinguished financier at the head of the Italian treasury department Mr. Magliani, calculated to give an erroneous impression. His argument is, that the real facts of the general commercial increase may be reached by comparing the variations between the first two years of the decade 1873–1874, and the last two years, 1881–1882.

From these figures there appears to have been only an increase of $19,300,000 in the ten years, whereas in the first biennial the discount on paper money in which these statistics were given was 23½ per cent., while in the last biennial it was nearly at par. Therefore, bringing both totals to the same standard there would be an increase of $57,900,000 instead of $19,300,000.

Nor is this all. There is another co-efficient, namely, the great diminution in the declared value of merchandise, both imported and exported, during the last ten years.

It must here be noted that a parliamentary committee has during this time made considerable change in the custom house methods of calculation. For example, cocoons, raw silk, and silk tissues were formerly calculated at gross weight, including wrappings and cases. Now they are calculrted at net weight, thus diminishing the total of Italian exports by some millions of lire. The same is true of exports of rough coral; in 1873 it was appraised at 350 lire ($67.55) per kilogram, whereas it is now placed at 35 lire ($6.75) per kilogram (2.204 pounds).

Medicines, chemical products, &c., have also been corrected. The total of all these changes amounts to about $38,600,000, which, granting an equal foreign trade in both the biennials cited, would give the former biennial (1873–'74) a false and deceptive credit of, say, $38,600,000, while had the committee made no corrections the last biennial cited (1881–'82) would foot up $38,600,000 more than was returned.

Thus, taking the above two co-efficients into account, and also the changes introduced by the parliamentary committee in calculation, the minister of finance claims that, instead of $19,300,000, the real increase would be $96,500,000.

There are still other proofs of the encouraging condition of Italian commerce. Imports of coffee and sugar, and especially petroleum, have not only resisted the imposition of heavy custom duties, but have greatly increased. No doubt this indicates an improvement in the condition of the lower classes. Another proof is the constant increase in imports of raw material for home manufacture.

For example, during the last decade coal has increased from less than 1,000,000 tons to 2,270,000 tons. During the same period the gain in machines for manufacturing purposes was from 18,000,000 to 33,000,000 tons, and iron from 100,000 to 250,000 tons.

* The project of law is still before Parliament.

EARTHQUAKE IN THE ISLAND OF ISCHIA.

In giving an account of the various matters which affected favorably or otherwise the material prosperity of Italy in 1883 a reference to an earthquake which occurred in the island of Ischia and assumed the proportions of a national disaster cannot be omitted.

On the 28th of July, 1883, the island of Ischia in the Gulf of Naples was visited by a severe earthquake, which in a few seconds, besides seriously damaging neighboring places upon the island, completely destroyed Casamicciola, the principal town. The estimated population of the town on that day was 4,127 inhabitants and 1,500 strangers.

The loss of life and property was very great; there were 2,313 killed, 762 seriously wounded, beside a large number bruised by the falling houses. All the killed, with the exception of 51, were Italians.

One-fifth only of the houses of Casamicciola were left standing, and these were in such a damaged and dangerous condition as to be uninhabitable.

Prompt aid was given by the Government in the rescue of numbers who were buried under the ruins, the care of the wounded, and in the shelter and support of the homeless and penniless survivors, while private charity contributed also largely to their relief.

The former stone houses have been replaced by low structures of wood.

LEWIS RICHMOND,
Consul-General.

UNITED STATES CONSULATE-GENERAL.
Rome, June 30, 1884.

FOREIGN SETTLEMENT AT CHEMULPO, COREA.

REPORT BY CONSUL-GENERAL FOOTE, OF SEOUL.

I transmit herewith a copy of the Chinese version of the agreement respecting the general foreign settlement of Chemulpo, together with an English translation of the same, and a small diagram showing the outlines of the settlement. The provisions of the charters of other treaty ports in the East have been carefully considered, and, without being cumbersome, I think the stipulations are sufficient to permit the organization of the municipal government and to provide revenue for its support.

LUCIUS H. FOOTE,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Seoul, July 21, 1884.

AGREEMENT RESPECTING A GENERAL FOREIGN SETTLEMENT AT CHEMULPO.

I.

The situation and limits of the general foreign settlement at Chemulpo, with the position of the streets and roads and the boundaries of the lots, are shown in the annexed plan, on which the general foreign settlement is colored red.

The Corean Government will take steps to cause all Corean houses now standing within these limits to be removed within two months from the date of this agreement, and will prevent others from being erected there.

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II.

The settlement consists of four classes of lots.

A.—Those lots situated on the south side of the Chinese settlement to be prepared and filled in by the Corean Government. All buildings on these lots must be solidly constructed of brick, stone, or iron, with tiled or iron roofs. No wooden buildings nor thatched houses will be allowed on these lots.

B.—The lots north of the Chinese settlement. All buildings erected on these lots must be tiled, and the walls constructed of brick, stone, or thick plaster.

C.—Lots east of the Japanese settlement, which must be prepared by the purchaser at his own expense.

D.—Or hill lots.

III.

The sea-walls and jetties shall be constructed and kept in repair, and the streets and roads of the settlement laid out and graded at the expense of the Corean Government. The Corean authorities will also mark out the boundaries of the lots by erecting stones or otherwise before they are put up for sale.

IV.

The roads and drains shall be kept in repair, and the streets lighted and cleaned, a police force provided, and other municipal expenditures met by the municipal council from their own funds. If these prove insufficient, the municipal council may impose an additional assessment on all lots in the foreign settlement in proportion to the yearly rental of each.

V.

All sales of land within the foreign settlement shall be made at the instance of the competent authorities by public auction, and after not less than one week's notice to the competent authorities of the treaty powers.

The upset price of A lots will be $96 per 100 square meters; of B and C lots, $6 per 100 square meters; and of D lots, $3 per 100 square meters. The yearly rental of A lots will be $20 per 100 square meters; of B and C lots, $6 per 100 square meters; and of D lots, $2 per 100 square meters, of which amount 30 cents per 100 square meters will be retained by the Corean authorities, and the remainder, together with any balance left from the proceeds of land sales, shall belong to the municipal fund. None but subjects or citizens of treaty powers, whose authorities have signified their acceptance of this agreement, shall be allowed to purchase or hold land in the foreign settlement, and no title deeds shall be issued to others. The Corean Government may, however, hold in their own name lots for the erection of Corean public offices, or for the official residences of Corean functionaries. These lots shall be subject to municipal regulations in the same manner as others, and shall contribute to the municipal expenditures in the same proportion as other lots of their class. Title deeds will be transmitted to the purchasers through their respective authorities; transfers must be executed before the authorities of the transferer, and produced by the transferee to his authorities, who will inform the Corean authorities of the transaction. All purchasers and transferees shall sign the declaration appended to the title deeds herewith annexed.

VI.

The municipal council shall consist of a Corean local official of suitable rank, the consuls of the treaty powers whose subjects or citizens hold land in the settlement, and three registered land-holders, who shall be elected by the other registered land-holders, in such manner as the foreign authorities aforesaid may hereafter determine. The municipal council shall have power to regulate their own proceedings, and the duties of their officers and servants, and shall have power to make by-laws for the following purposes: Regulation of public houses; issuing of public-house licenses, and imposing and collecting fees for the same.

Suppression of gambling houses, opium houses, and houses of ill-fame.

Regulation of traffic.

Regulating and licensing boats, porters, and vehicles, plying for hire within the foreign settlement.

Prevention of nuisances. The erection of unsafe or inflammable buildings, and the following of offensive trades or those injurious to the public health, within the foreign settlement. Preventing obstructions to the public thoroughfares. Preserving public health and decency.

And by law, made by the municipal council, may state a maximum penalty not to exceed $25, for the breach thereof. All such penalties shall be enforced by the authorities of the offender; and all fines shall be paid over to the municipal fund.

VII.

Lots outside of those described as A lots on the general plan of the settlement and which are now covered by water at high tide, as well as those which may be formed by the grading of Station Island, shall be known as water lots. The upset price of these lots shall be the same as C lots. Such lots shall be filled and graded at the expense of purchasers, and according to a plan which may be hereafter agreed upon.

VIII.

Title-deeds will be granted to purchasers of lots in the following form:

In consideration of the sum of ——— dollars, the receipt of which is hereby acknowledged, the undersigned, acting on behalf of the Corean Government, hereby grants in perpetuity to ——— ———, his heirs and assigns, the lot of land situated ——— ——— and described in the official plan of the foreign settlement as lot No. ———, and containing ——— square meters, on the following conditions:

Firstly. That the said ——— ———, his heirs or assigns, shall pay in advance on the —— day of ——— in each year, to the Corean authorities at Chemulpo, the sum of ——— dollars as rent.

Secondly. That the said ——— ———, his heirs or assigns, shall pay to the Chemulpo municipal council such further sum as it may be found necessary to collect as a tax for municipal purposes.

Thirdly. That every transfer of the said lot shall be made to no other person than a subject or citizen of a treaty power, and shall be executed before the competent authorities of the transferer and produced by the transferee to his competent authorities.

Fourthly. That within the space of eighteen months the said ——— ——— erects on this lot buildings, or makes improvements to the value of not less than $1,000 for A lots, $500 for B lots, and $250 for C lots; and that all buildings erected on it shall conform to the description given in Section II of this agreement, for the general foreign settlement at Chemulpo.

Fifthly. In case the holder of this title-deed absents himself from Corea without making provision for the fulfillment of the conditions of this deed, the Corean authorities may re-enter into possession at any time after the rent, &c., have become overdue for more than one year. In such cases the Corean Government will advertise and sell the property by public auction, and after reimbursing themselves for arrears of rent and the costs of such sale, shall pay the balance over to the authorities of the country to which the party belonged.

Sixthly (in the case of frontage lots only). The Corean Government reserve to themselves the right of filling in the ground in front of this lot, for the purpose of extending the foreign settlement.

Done in duplicate, one copy being given to the purchaser and the other being retained by the Corean Government. This —— day of ———.

——— ———. [L. S.]

In consideration of the grant of the above piece of ground, I, ——— ———, the said ———, hereby agree to fulfill the conditions attached thereto, and I further acknowledge myself bound to observe the municipal regulations of the general foreign settlement of Chemulpo, under a penalty not to exceed $25 for every breach thereof.

[Signature of purchaser.]

——— ———.

And I, ——— ———, transferee of the said lot of ground, hereby agree to fulfill the conditions of the title-deed, and I further acknowledge myself bound to observe the municipal regulations of the general foreign settlement of Chemulpo, under a penalty not to exceed $25 for every breach thereof.

[Signature of transferee.]

——— ———.

THE TYNE AND ITS TRADE.

REPORT BY CONSUL LOCKE, OF NEWCASTLE.

OPENING OF A NEW DOCK.

An event of no small importance to the shipping world in general and Newcastle in particular was the opening, last week by the Prince of Wales, of the mammoth new docks on the River Tyne six miles below the city. But little was done for the improvement of this famous river until the year 1850, when, by act of Parliament, its conservancy passed from the corporation of Newcastle to the Tyne improvement commission, which consists of twelve members, selected from the boroughs of Newcastle, Gateshead, North Shields, and Tynemouth.

The first act of importance undertaken by this commission was the building of the Northumberland docks in 1853. When finished, four years later, it had 55 acres of water space, inclusive of basin and lock, and would admit vessels of large tonnage. The depth of water is 24 feet at high-water spring tides. Within the last decade the east end has been deepened and enlarged. The jetty, 450 feet long, having a minimum depth of 21 feet alongside, with cranes for landing import cargoes, has been completed, with a wharf of 100 feet wide behind the jetty, on which are railways connected with the Northeastern Railway.

As the dredging, walling, and otherwise improving the river, indefatigably carried on by the commission, increased the port facilities, it became apparent that more dockage was imperative, and in May, 1874, the construction of the Coble Dene docks was begun. The commissioners labored under many disadvantages and were obliged to suspend work entirely for over a year through the interference of certain obstructionists in Parliament, who were opposed to granting them privileges for raising funds with which to carry on the work on which they had already spent over £140,000. But the commissioners were not to be balked in their designs for the improvement of the river over which they had charge, and on the 21st of August, 1884, they had the satisfaction of seeing their great work formally opened by the Prince of Wales, who was pleased to give it his own name.

Coble Dene—or, as it in future will be known, Albert Edward Dock—will be chiefly used for the import trade. It comprises 26¾ acres, the total excavations having amounted to 2,600,000 cubic yards. The tidal entrance is 80 feet wide, and the lock 60 feet wide, each having gates to them made of greenheart. The depth on the sills of the tidal entrance and the upper end of the lock is 15 feet at low-water and 30 feet at high-water spring tides. The depth on the lower sill of the lock is 21 feet at low water and 36 at high water, so as to enable vessels to be locked from and to the river at low-water spring tides. The length of the lock between the gates is 350 feet. Grooves are made outside the gates for caissons, by which the length of lock may be increased to 400 feet or more if necessary.

The length of quay and dock is about 3,000 feet, and a new river wall about 1,500 feet long can be used as a quay from the river.

The facilities for loading and unloading at the new dock will be unsurpassed. At the north end there is a coal-shipping staith of sufficient length to tide a vessel 400 feet long while on each side two ves-

sels 250 feet long can be accommodated, there being four spouts on each side. A large warehouse for grain and general merchandise stands on the southwest side. It will store 320,000 bushels of grain, being supplied with the latest improved hydraulic elevators, leaving for merchandise the entire lower story, which is 200 feet long by 100 feet wide and 19 feet high.

No pains have been spared to make the "Albert Edward" one of the most complete docks of its kind in the United Kingdom. The parliamentary estimate of the cost of the dock was £740,000, and it is thought the work will be completed within that amount.

THE TYNE AND ITS TRADE.

In this connection it may not be out of place to give a few figures relative to the most important branches of trade on the Tyne. Of these coal has taken the lead since the year 1239, when King Henry III granted the freemen of Newcastle privilege to dig coals in the castle field and the forth, down to the present day.

Two centuries ago 400 vessels left the Tyne each year, carrying away a little over 100,000 tons. In 1650 these figures had been raised to 345,550 tons. A hundred years later the amount reached 680,000 tons yearly. The growth of the trade during the present century may best be seen by the following table showing—

Coal exports from the Tyne during the years named.

	Tons.
1811	1,725,000
1831	2,208,000
1851	3,550,000
1861	4,811,000
1871	6,035,000
1873	5,829,000
1883	8,900,000

SHIP-BUILDING

is next in importance, and its growth will be seen in the following tables of iron and steel tonnage launched on the river during the years named:

	Tons.
1863	51,000
1869	33,000
1873	87,000
1879	87,000
1880	149,000
1881	177,000
1882	208,000
1883	219,000

CHEMICALS

have been an important branch of trade on the Tyne for generations, the chief products being soda crystals, soda ash, and bleaching powder, the manufacture of which employs millions of capital and thousands of workmen, there being twelve large works in operation in this district at the present time.

The manufactured-iron trade has played an important part in the

Tyne growth, the rolling-mills at Gateshead, Felling, Walker, Birtley, and Consett all contributing their quota to the increase of commerce and the prosperity of the Tyneside.

Very respectfully,

ROBINSON LOCKE,
Consul.

UNITED STATES CONSULATE,
Newcastle-on-Tyne, August 24, 1884.

TRADE OF GOTHENBURG FOR 1883.

REPORT BY CONSUL COOPER.

The report which I have the honor to transmit herewith shows the trade and commerce at this port during the year 1883.

The customs receipts at this port for the year 1883 amounted to 9,006,836.76 Swedish crowns, the largest sum ever passed to the credit of the Government in a single year. As compared with the customs receipts of 1882 the excess amounts to the round sum of 981,406.95 Swedish crowns.

GOTHENBURG'S REGISTER OF SHIPPING.

The number of craft belonging to this port at the close of the year 1883 was, sailing vessels 124, measuring 52,212 tons, and 82 steamers measuring 29,538 tons of 5,244 horse-power, making a total of 206 vessels measuring 81,750 tons. During the year 17 vessels measuring 3,260 tons were built, and 10 were added by purchase, measuring, together, 3,665 tons. During the same period 9 vessels were lost measuring 3,682 tons, and 11 were disposed of by sale, measuring 2,196 tons. At the close of the year 1882, the number of sailing vessels was 132, measuring 54,902 tons, and the number of steamers 67, measuring 25,985 tons of 4,246 horse-power. The number of sailing vessels is annually decreasing, while the number of steamers is increasing.

THE SHIPPING BUSINESS.

The harbor of Gothenburg was unobstructed by ice during the winter of 1883–'84, but a comparatively small business was done owing to the exceptionally light foreign demand for articles of Swedish manufacture and Swedish products. Rates were consequently very low. During the year there arrived at this port 2,486 vessels, measuring 850,288 tons, of which number 1,830 were steamers. The departures from this port during the same period numbered 2,347 vessels, measuring 806,409 tons, of which 1,784 were steamers, under the following flags: Swedish, 1,540; Danish, 258; British, 255; Norwegian, 180; German, 12; French, 26; Dutch, 5.

THE HERRING FISHERY.

This industry, of which I have had considerable to say in previous reports, and which is of such vital import to a very large class of the

Swedish population, was essentially a failure in the past year. The ichthyologists are still speculating as to the cause of the periodical disappearance of the herring and occasionally astonish the community with theories on the subject as ingenious as they are unsatisfactory. The result of my inquiry and observation is simply this: that after the prevalence of uninterrupted easterly gales for a long period, the herring are blown to such great distances from the Swedish coast that a considerable time must elapse before their return. As I pointed out in a previous report, the Swedes are singularly unskilled in the matter of packing and preserving. If they possessed a tithe of American tact in these regards, this important Scandinavian industry might be materially enhanced. Expensive nets and appliances for the capture of fish involve a material loss when a very large percentage of the hauls is left to rot through non-preservation.

EXPORTS.

Metals.—As in the year 1882, the iron market has fluctuated but little. The rate for assorted hammered iron was fixed at 6.35 and 6.40 Swedish crowns per cwt. The rate for rolled iron was at 6.40 and 6.60 crowns per cwt. Pig-iron was almost entirely neglected and very small shipments were made as compared with previous years. Of iron and steel there was shipped to the following countries:

Countries.	Tons.	Countries.	Tons.
The United Kingdom	90,360	Italy	162
Germany	7,515	Portugal	124
Belgium	6,890	Norway	123
Denmark	5,502	Africa	121
France	5,100	Spain	29
Holland	1,660	Russia	5
United States (direct)	483		

A large portion of the metal shipped to the United Kingdom, &c., was reshipped to the United States.

Of other metals there was shipped to the United Kingdon: copper, 61 tons; nickel, 17 tons; maugan, 856 tons; lead, 911 tons. There were shipped to Belgium 23,918 tons of blende.

THE TIMBER TRADE.

Very high expectations were entertained by shippers at the commencement of the year of a large business and materially augmented prices, but these expectations were doomed to disappointment. The exporters in Baltic ports flooded the foreign market with their stock early in the season, and prices fell to such an extent that Swedish merchants held back hoping for a better market. The result was that late in the spring they accepted a reduction of nine to ten Swedish crowns per standard, and in the summer and autumn a still further reduction of five to ten crowns. The average rates have been, for deals 28 crowns, and for battens, 2½ by 7 inches, 14 crowns per 240 running feet. The total exports of deals and battens amount to 7,845,888 cubic feet, showing an increase of 341,386 cubic feet over the year 1882.

There was shipped to the following countries:

Countries.	Cubic feet.	Countries.	Cubic feet.
United Kingdom	4,546,455	Cape	54,449
France	1,736,301	Tasmania	34,504
Belgium	432,423	Denmark	26,594
Spain	388,596	Algeria	13,794
Holland	236,252	Italy	12,494
Germany	181,956	Norway	9,629
Australia	89,679		
Portugal	82,672	Total	7,845,888

Nine million three hundred and sixty thousand seven hundred and twenty-four cubic feet of pit-props were shipped, mostly to England, and in this item there is an increase of 2,198,071 cubic feet over the year 1882. Of other woods there were exported as follows: Timber (round, cubic feet), 10,072; beams and spars, 25,180; split wood, 57,582; sleepers, 445,261; staves (pieces), 5,249,122; shingles (value), $1,931,696; joineries (value), $338,068.

THE CROPS.

The spring and early summer gave promise of a prolific harvest. The oat crop, more particularly, was unusually heavy. Among grains, oats are the principal item of exportfrom Sweden. Although rye is largely cultivated very little is exported, as the home demand for that article for the purposes of food, &c., is nearly equal to the supply. Very heavy and continuous rains set in at about harvest time and very serious damage was done thereby. Indeed, so great was the destruction through rot and mildew that, notwithstanding the luxurious growth, the actual yield was hardly up to the average. From the port of Gothenburg there was exported to—

Countries.	Oats.	Barley and malt.	Peas.	Rye.	Beans.	Wheat.	Total.
	Cub. ft.	*Cub. ft.*	*Cub. ft.*	*Cub. ft.*	*Cub. ft.*	*Cub. ft.*	*Cub. ft.*
United Kingdom	4,335,222	3,911	6,692	.....	37,894	.....	4,383,219
France	546,409	.....	.....	.....	.....	.....	546,409
Belgium	235,663	.....	.....	.....	.....	.....	235,663
Denmark	130,407	1,845	508	4,347	.....	9,485	146,592
Germany	3,029	.....	57	.....	.....	.....	3,086
Norway	997	256	4,897	76	.....	.....	6,226
Holland	.....	.....	.....	.....	496	61	557
	5,251,727	6,012	12,154	4,423	37,890	9,546	5,321,752

Of the following articles there were exported:

Articles.	Quantities.	Articles.	Quantities.
Fish ..... tons	3,554	Webs of flax and hemp	25
Fish, dried and salted	11	Butter ..... tons	3,542
Bacon	23	Paper	6,034
Cranberries	239	Matches	7,207
Hides and skins	460	Wood pulp	7,461
Oil cake	311	Horses ..... number	38
Cheese	49	Cattle ..... do	9,325
Tar ..... tons	364	Sheep ..... do	109
Webs of cotton	190	Machinery and tools ..... value	$247,806
Webs of wool	22		

THE IMPORTS OF GOTHENBURG.

The principal articles imported during the year were:

Articles.	Quantities.	Articles.	Quantities.
Cotton.....tons..	9,349	Cheese.....tons...	175
Fish (various kinds).....do..	293	Paper.....	322
Bacon.....do...	4,114	Treacle.....tons..	2,819
Spool cotton:		Tea.....do..	31
Undyed.....do...	1,533	Tar.....do...	38
Dyed.....do...	274	Tobacco.....do...	847
Woolen yarn:		Wool.....do...	696
Undyed.....do...	307	Webs of silk.....do...	10
Dyed.....do...	272	Webs of cotton.....do...	312
Rice.....do...	3,477	Webs of wool.....do...	666
Hides and skins.....do...	1,100	Webs of flax and hemp.....do...	46
Iron:		Cattle.....number..	12
Bar.....do...	3,320	Horses.....do...	58
Pig.....do...	7,961	Salt.....cubic feet..	701,833
Rails.....do...	12,017	Herring.....do...	215,417
Coffee.....do...	4,820	Coal and coke.....do...	15,211,667
Petroleum.....do...	3,613	Arrack.....gallons..	38,920
Linseed and rape oils.....do...	714	Rum.....do...	2,113
Olive oil.....do...	1,200	Cognac.....do...	73,945
Sugar:		Brandy.....do...	6,421
Unrefined.....do...	6,376	Machinery and tools.....value..	977,281
Refined.....do...	3,169		

The Swedes, as a nation, are an extremely conservative people and are exceedingly loth to engage in new enterprises. They jog on in the old way or in the old rut, if you please, and only dire necessity or the clear and certain prospect of gain ever drives them to the adoption of a new idea. This is one reason why the rare inventions of Americans find a scant market here. Another reason is the universal lack of confidence in American merchants. It is idle to attempt to disabuse their minds in this regard. They point, with an air of triumph, to the entire list of articles imported from the United States, descending the scale from fraudulently packed cotton to unmarketable cheese.

SIDNEY W. COOPER,
Consul.

UNITED STATES CONSULATE,
Gothenburg, August 8, 1888.

COMMERCE OF SAMOA.

REPORT BY CONSUL CANISIUS, OF APIA.

The value of imports from the United States into these islands during the quarter ending to-day amounted to $63,650.72, of which $45,596.72 was imported in American vessels.

The value of exports to the United States I have not been able to ascertain, but it will probably not exceed $10,000 in copra and cocoanuts.

The imports have during the last two years increased immensely, and there is now a keen competition between the various importers at Apia.

The American stores are gradually gaining over customers among the natives from the Germans, who now have to look rather to their plantations than to the importing of merchandise as their main support.

The one large German firm here, the Deutsche Handels und Plantagen Gesellschaft der Südsee Inseln zu Hamburg, employing at present about 1,000 laborers, imports large quantities of provisions wherewith to feed these laborers. Their plan is to charter vessels in Europe to take out cargoes of European goods to the Australian colonies, and then to load with provisions for Samoa. I do not know the value of pro-

visions imported from Australia, but it must amount to a large sum. I believe that these provisions can be bought just as cheap in San Francisco as in Sydney, if not cheaper, and the only reason I can ascribe for the importation thereof from the latter place instead of from the former is the difference in the cost of transportation.

If regular steam communication were established between Apia and San Francisco, the German firms, who are as yet the principal importers, would draw their provisions from San Francisco instead of from Sydney. A steamship of 1,000 tons would find constant employment bringing down cargoes of provisions and goods and taking up fruit and copra. Immense quantities of oranges and limes, not to mention cocoanuts and other fruit, could be grown in the vicinity of Apia, and would find a ready market in San Francisco.

There is one thing, however, which would be necessary to make such steam communication paying, and that is the hearty support of the merchants at Apia. If they could be induced to combine for the support of the enterprise, I see no reason why it should not be successful.

There is but one obstacle in the way as far as I can perceive. The jealousy of the merchants here is so great, that I fear any attempt to induce them to join for any purpose would fail. However, self-interest might overcome this difficulty, and with regular communication once established, I have no doubt that trade with the United States would be greatly stimulated.

The Tonga group has also received some attention from one of the American houses at Apia, which during this quarter sent some $10,000 worth of American goods to those islands. This beginning is certainly not very large, but it is nevertheless encouraging, and not unworthy of note as the probable commencement of a much larger trade with the Tonga group.

The trade of Tonga is of much greater volume than that of Samoa, and I have no doubt that with patience and perseverance the firm at Apia will succeed in wedging themselves into the monopoly now enjoyed by the Germans.

Table showing the imports into Samoa from the United States during the quarter ending June 30, 1884, as compared with the previous quarter and with the same quarter of 1883.

Quarter.	Value of imports.	Quarter.	Value of imports.
June 30, 1884	$63, 650 70	June 30, 1884	$63 650 70
March 31, 1884	5, 120 52	June 30, 1883	24, 250 00
Increase	58, 530 18	Increase	39, 400 70

Table showing the shipping at Apia during the quarter ending June 30, 1884.

Nationality.	No.	Tonnage.
American	15	839. 32
British	7	696. 77
German	19	5, 142. 00
Hawaiian	1	475. 00
Total	42	7, 144. 09

THEODORE CANISIUS,
Consul.

UNITED STATES CONSULATE,
Apia, Samoa Islands, June 30, 1884.

FOREIGN COMMERCE OF SOUTH RUSSIA.

REPORT BY CONSUL PAUL, OF ODESSA.

The following tabulated statements prepared by Consul Paul, show the imports, exports, and navigation at the ports of Odessa, Taganrog, Rostoff, and the Sea of Azoff ports:

TRADE OF ODESSA FOR 1883.

IMPORTS.

[One pood = 36 pounds.]

Articles.	Amount.	Value.	Articles.	Amount.	Value.
	Poods.	*Rubles.*		*Poods.*	*Rubles.*
Vegetables, fresh and dried	125,182	375,564	Almonds, shelled and unshelled	10,062	160,996
Alimentary products	4,603	18,413	Fruits, dates, figs, &c	120,662	1,013,300
Cement	386,214	270,350	Cheese	6,869	123,635
Building loam	18,865	5,660	Bonbons, fancy bread, &c.,	1,394	55,756
Sea coal	19,176,052	3,835,212	Pâtés, prepared mustard, &c	3,030	69,053
Tar and pitch	83,506	66,805	Sea fish in oil, sardines and caviare	19,448	583,438
Tanin	227,140	90,856	Herrings, salted and smoked	6,085	73,023
Products in wood	155,400	31,080	Laurel leaves and berries	4,026	26,996
Cork, unwrought	9,300	20,459	Coffee	79,419	1,588,275
Plants, alive and dried	59,284	237,138	Vanilla and saffron	110	87,380
Skins unwrought	12,205	36,613		225	3,144
Cotton	496,250	4,962,503	Pepper in grains	80,100	361,195
Wax, unwrought	683	5,465	Cinnamons, spices, &c	16,751	223,514
Books and papers	5,164	111,075	Tobacco in leaf	19,251	1,155,085
Starch and potato flour	26,555	159,329	Cigars	99	31,523
Bricks	181,513	66,073	Tea:		
Agricultural machines and instruments	106,284	318,852	Common black	89,057	2,341,981
Rice and rice flour	306,877	1,227,506	Flowery Pekoe	82	9,840
Fruits, fresh, salted, and dried	5,922	23,688	Arrack, rum and French brandy	879	52,711
Oranges and lemons	550,601	1,651,803	Brandy, liqueurs, &c	16,831	33,662
Grapes, fresh	8,085	97,024	Wine in barrels	39,714	475,467
Capers, olives, &c	63,128	381,596	Scented	214	12,796
Carob beans	83,638	167,267	Palm and cocoanut	77,042	462,332
Wine in bottles (bottles)	15,296	18,355	Pumice stone	24,753	74,260
Champagne (do)	24,622	123,108	Medicines	624	31,209
Porter (do)	13,680	13,680	Gypsum, marble, and slate	20,112	90,506
Mineral waters	113,647	40,094	Crockery	14,678	225,141
Skins and leather tanned	2,960	118,406	Porcelain	1,266	41,366
Furs and used skins	166	18,220	Glass and window glass	55,610	646,822
Linen	726	29,054	Forged iron goods	11,508	69,050
Cotton	255	7,947	Jewelry	49	89,472
Cast-iron in bars	214,456	107,228	Coppersmith's goods	17,475	122,330
Iron in bars and in sheets	451,118	1,172,921	Iron and steel goods	25,636	248,528
Tin plate	1,955	11,732	Cutlery, fine and common	256	17,400
Steel, unwrought	17,497	69,989	Tools	16,253	130,030
Copper, unwrought	22,238	293,598	Machines, engines, &c	43,267	216,336
Tin in bars and rods	14,482	115,586	Carpentery and turned goods	5,735	69,496
Lead, pig and in sheets	109,644	346,735	Writing materials	13,209	208,863
Gutta percha, caoutchouc, &c	7,227	57,814	Flaxen products	65,610	89,163
Incense, ordinary	12,308	98,462	Sacks, &c	123,976	1,044,652
Incense, various	483	19,332	Stuffs:		
Rosin	121,916	182,874	Silk and half silk	329	235,324
Petroleum	16,060	40,150	Woolen	2,602	210,374
Ocher and others	42,934	42,934	Clothes, millinery, &c	1,023	425,014
Indigo	733	51,299	Lace and tulle	137	122,692
Cochineal	1,057	42,280	Mercery	666	55,490
Blue and Prussian blue	1,283	12,830	Pianos, harmonias, and organs	250	76,200
Cerise	14,088	84,530	Watches:		
Verdigris, artificial	4,736	104,188	Gold	3,967	158,680
Liquid glass and carbonate of soda	60,666	91,000	Silver	9,895	148,425
Crystallized soda, calcined and corrosive	39,528	59,288	Candles, stearine	7,596	91,170
Chemical and pharmaceutical productions	6,212	124,232	Matches, chemical	17,193	205,312
Oil:					
Olive	383,627	3,836,272	Merchandise, various		8,994,433
					43,167,956
			Duty, paid in gold		5,868,557

MONEYS.

In Russian gold	rubles..	186,400
In foreign gold	do....	849,760
In Russian silver	do....	80,230
In foreign silver	do....	428,760
In Bank-notes	do....	1,042,232
Total		2,587,382

RÉSUMÉ.

	Rubles.	
Imports 1883	43,167,956	
Imports 1882	46,205,087	
Decrease	3,037,131	=$1,958,950
Duties paid, 1883	5,868,557	
Duties paid, 1882	5,841,319	
Increase	27,238	=$17,590
Moneys in 1883	2,587,382	
Moneys in 1882	6,310,341	
Decrease	3,722,959	

Imports of machinery into Odessa from the United States.

ARTICLES.	1882.	1883.
Reapers, valued at	$250,000	$200,000
Horse-rakes	20,000	20,000
Pumps	5,000	5,000
Seeders	3,000	3,000
Grass mowers	50,000	50,000
Farm agricultural implements	10,000	10,000
Sundries	5,000	5,000
Petroleum	3,000	1,000
	403,000	294,000
Decrease		109,000

EXPORTS FROM ODESSA, 1883.

Articles.	Amount.	Value.	Articles.	Amount.	Value.
	Tchetverts.	*Rubles.*		*Poods.*	*Rubles.*
Wheat	2,724,664	35,420,632	Leather and rawhides	37,216	148,864
Rye	907,554	7,260,512	Furs	595	35,700
Peas	65,988	659,880	Cables and ropes	48,961	195,844
Maize	775,924	6,207,392	Books and students' articles	679	16,975
Oats	261,167	1,576,002	Pictures	293	29,300
Millet	6,628	29,754	Horns and hoofs	4,823	14,469
Barley	1,774,915	12,424,405	Dried blood and products for manure	2,700	5,400
Linseed and hemp seed	7,989	117,702	Strong glue	493	2,465
Colsa seed	87,918	879,180	Calcined bones and in powder	14,000	1,400
Beans	24,399	292,788	Building stone	2,400	240
Pearl barley	812	3,248	Bones (duty paid, rubles, 2,131)	21,318	6,395
Flour	105,879	207,580	Agricultural machines and implements	4,660	27,960
	Poods.		Wooden furniture	4,065	13,250
Pharmaceutical products	4,628	360,750	Butter	32,857	328,570
Colonial	1,900	19,000	Macaroni	2,698	10,792
Writing paper	750	3,000	Meat, fresh, dried, and salted	9,199	45,995
Wax	827	20,675	Copper articles	1,279	25,580
Wine and brandy, bottles	417	2,502	Knives	371,107	742,214
Brandy and wine, bottles	4,234	1,697	Potted fruits	14,964	59,856
Cakes and biscuits	310	1,550	Linen and canvas	12,310	184,650
Utensils	1,537	9,222	Oakum and hemp	9,295	18,590
Beasts, head	17,069	1,295,625	Down	3,656	109,680
Joists and staves	1,766,163	1,766,163	Bran, tchetvert of 10 pounds	73,161	731,610
Sheep, &c., head	31,257	218,799	Beer, porter, and honey, bottles	8,125	8,125
Iron and rails	814	841	Guns	5,780	346,800
Manufactured iron	2,862	17,172	Fish, salted, dried, and smoked	103,945	415,780
Carriages, wheels, and tires, number	909	29,310	Burnt bones	6,796	12,994
Calf skins:					
Varnished	1,665	33,000			
Manufactured	4,499	44,990			

Exports from Odessa, 1883—Continued.

Articles.	Amount.	Value.	Articles.	Amount.	Value.
	Poods.	*Rubles.*		*Poods.*	*Rubles.*
Ordinary cloth	3,598	17,965	Eggs	1,420	5,680
Tallow	42,949	257,694	Various products		424,5210
Turpentine	3,593	17,965			
Cheese	7,784	46,704			96,897,271
Spirit, degrees	632,371	1,965,137			
	9,825,684,385		Duty paid Government		335,598
Refined sugar	7,343	58,744	Moneys, 1883:		
Candles, stearine, &c.	113	904	Gold		144,152
Rags, duty paid, R.1224	6,120	6,120	Notes		478,162
Tobacco, cigars, and cigarettes, No.	124,500	1,245			622,314
Tea	279	11,160			
Metallic articles	746	3,730	In 1882		1,644,830
Wool, washed	31,931	383,172			
Wool, unwashed	444,570	3,556,560	Decrease		1,022,516
Silk, raw	7,740	774,000			

RÉSUMÉ.

	Rubles.
Bonded goods, 1882	6,393.55
" " 1883	3,355.98
Decrease	3,037.57
	[$1,959.13]
Exports, 1882	61,871.82
" 1883	96,972.71
Increase	35,160.89
	[$22,640.06]
	Poods.
Wool exported, 1882	407,500
" " 1883	476,500
Increase	*69,000

NOTE.—Freights to the United Kingdom during 1883 were from 10 to 27 shillings per ton of 6½ imperial quarters. Average, 17 shillings.

GRAIN EXPORTS FROM ODESSA.

[One tchetvert = 6 English bushels.]

Description.	Totals.	
	1882.	1883.
	Tchetverts.	*Tchetverts.*
Wheat	2,890,054	2,331,200
Rye	485,778	843,442
Maize	835,285	553,464
Barley	960,416	1,525,976
Oats	176,650	301,767
Linseed		73,830
Oleaginous	296,118	97,879
Millet	23,360	713
Green peas		51,514
Beans		29,705
Totals	5,667,661	5,809,490
Flour, poods	349,720	236,390
Bran, "	277,894	438,926
Wool, "	116,600	410,240

	Tchetverts.
1883	5,809,490
1882	5,667,761
1881	4,849,100
1880	3,849,140

* Equal to 2,484,000 English pounds.

Shipping at Odessa for 1883.

ENTERED.

Nations.	Steamers.				Sailing vessels.			
	With cargo.		In ballast.		With cargo.		In ballast.	
	Vessels.	*Tons.*	*Vessels.*	*Tons.*	*Vessels.*	*Tons.*	*Vessels.*	*Tons.*
Russian	142	148, 286	12	7, 600	10	1, 940	2	372
Swedish and Norwegian	10	10, 084	7	6, 330	.....	.....	.....	.....
Danish	3	3, 170	3	3, 024	.....	.....	.....	.....
German	9	9, 594	14	14, 850	.....	.....	.....	.....
Dutch	.....	.....	.....	.....	.....	.....	.....	.....
Belgian	9	10, 142	5	6, 508	.....	.....	.....	.....
British	290	321, 552	299	317, 728	.....	.....	.....	.....
French	20	33, 186	.....	.....	1	50	.....	.....
Italian	40	47, 908	.....	.....	6	2, 264	7	2, 606
Austrian	93	78, 640	2	1, 436	5	1, 904	6	2, 772
Greek	.....	.....	2	724	32	7, 416	4	1, 082
Turkish	.....	.....	.....	.....	52	5, 380	3	684
Various	.....	.....	.....	.....	1	152	.....	.....
Total	616	662, 562	344	358, 290	107	19, 106	22	7, 516
Entered in 1882	714	786, 830	274	284, 688	188	33, 194	44	17, 812
Entered in 1881	796	672, 701	272	233, 695	180	45, 000	(*)	(*)

* No distinction was made in 1881 between ballast and loaded vessels.

CLEARED.

Nations.	STEAMERS.				SAILING VESSELS.			
	With cargo.		In ballast.		With cargo.		In ballast.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Russian	144	149, 958	1	906	7	2, 060	2	118
Swedish and Norwegian	15	15, 512	1	1, 280	.....	.....	.....	.....
Danish	6	6, 104	.....	.....	.....	.....	.....	.....
German	22	23, 790	1	824	.....	.....	.....	.....
Belgian	15	17, 654	1	1, 238	.....	.....	.....	.....
British	496	533, 770	92	89, 286	.....	.....	.....	.....
French	20	33, 598	.....	.....	1	50	.....	.....
Italian	40	47, 914	1	1, 098	14	5, 318	.....	.....
Austrian	84	65, 994	11	14, 056	10	3, 990	1	428
Turkish	.....	.....	.....	.....	21	1, 696	35	3, 906
Greek	1	34	.....	.....	24	6, 114	13	1, 846
Various	.....	.....	.....	.....	9	.....	.....	.....
Total	843	894, 328	108	108, 688	86	19, 228	51	6, 298

TAGANROG AND ROSTOFF.

Return of imports at the ports of Taganrog and Rostoff during the years 1883 *and* 1882.

[Pood=36 pounds.]

Articles.		Quantity.	Value.
Figs and currants	poods	67, 851	£52, 499
Rice	do	2, 437	877
Olives	do	29, 184	15, 739
Carob beans	do	282, 207	47, 975
Nuts	do	151, 713	80, 408
Coffee	do	1, 807	2, 877
Pepper	do	356	498
Leaf tobacco	do	182	1, 225
Tea	do	363	19, 600
Rum	bottles	788	.....
Olive oil	do	143, 652	139, 625
Green fruits and vegetables		.....	1, 000
Steel, &c		984	600
Agricultural machines		5, 220	33, 755
Mirrors	vershoks	*1, 856	700

*Equals 3,248 square inches glass.

Return of imports at the ports of Taganrog and Rostoff, &c.—Continued.

Articles.	Quantity.	Value.
Wine:		
In barrels ..... gallons	716, 994	£172, 933
In bottles ..... bottles	3, 108	517
Champagne ..... do	180	84
Porter ..... do	2, 985	278
Mineral waters ..... do	1, 115	73
Cement ..... poods	1, 035	307
Sundries:		
Haberdashery		
Marble		
Divers instruments	.....	8, 645
Furniture		
Ornaments, &c		
Total	.....	580, 215 [$2, 819, 845]

Return of exports at the port of Taganrog and Rostoff during the years 1883 *and* 1882.

[One tchetvert = 5.775 bushels.]

Articles.	Quantity.	Value.
Wheat ..... tchetverts	3, 223, 255	£3, 867, 906
Rye ..... do	787, 260	629, 808
Barley ..... do	610, 160	374, 401
Oats ..... do	28, 160	11, 264
Maize ..... do	10, 315	6, 111
Linseed ..... do	547, 613	766, 658
Rape-seed ..... do	189, 027	137, 044
Tallow ..... poods	66, 977	36, 837
Butter ..... do	83, 816	100, 579
Black caviare ..... do	5, 337	21, 580
Red caviare ..... do	153, 236	45, 971
Salt fish ..... do	4, 147	2, 133
Boxwood ..... do	1, 400	375
Hides ..... do	3, 944	3, 648
Macaroni ..... do	770	223
Flour ..... do	5, 670	1, 275
Sundries ..... do	.....	7, 505
		6, 013, 318 [$29, 224, 725]

Return of shipping of all nations at the port of Taganrog during the year 1883.

ENTERED.

Nations.	With cargoes.			In ballast.			Total.		
	No.	Tons.	Crews.	No.	Tons.	Crews.	No.	Tons.	Crews.
Italian	8	2, 878	107	21	7, 824	266	29	10, 702	373
British*	16	14, 109	351	422	361, 937	8, 655	488	376, 046	9, 006
Russian†	31	7, 134	457	19	3, 556	174	50	10, 690	631
Greek‡	112	22, 848	966	265	83, 076	2, 889	377	105, 924	3, 855
Norwegian and Swedish	.....	.....	.....	2	1, 806	49	2	1, 806	49
Austrian	.....	.....	.....	8	2, 658	105	8	2, 658	105
French	.....	.....	.....	3	2, 312	74	3	2, 312	74
German	.....	.....	.....	3	2, 366	58	3	2, 366	58
Turkish	30	2, 662	222	14	1, 420	117	44	4, 082	339
Belgian	.....	.....	.....	1	962	21	1	962	21
Total‡	197	49, 631	2, 103	758	467, 917	12, 408	955	517, 548	14, 511
1882	197	46, 105	2, 121	835	452, 936	12, 679	1, 032	499, 041	14, 800
Difference in favor of 1883	0	3, 526	.....	.....	14, 981	.....	.....	18, 507	.....
Difference in favor of 1882	0	.....	18	77	.....	271	77	.....	289

*Of these six only were sailers; aggregate tonnage, 1,866.
†Sixteen ships remained for winter.
‡Seventeen vessels wintered.

Return of shipping of all nations at the port of Taganrog during the year 1883—Continued.

CLEARED.

Nations.	With cargoes.			In ballast.			Total.		
	No.	Tons.	Crews.	No.	Tons.	Crews.	No.	Tons.	Crews.
Italian	28	10,444	364	1	258	9	29	10,702	373
British	436	374,199	8,965	2	1,847	41	438	376,046	9,006
Russian	34	9,028	509	.....	.....	.....	34	9,028	509
Greek	353	99,442	3,585	23	6,336	263	376	105,778	3,848
Norwegian and Swedish	2	1,806	49	...	.....	.....	2	1,806	49
Austrian	7	2,422	97	1	236	8	8	2,658	105
French	3	2,312	74	.....	.....	.....	3	2,312	74
German	3	2,366	58	.....	.....	.....	3	2,366	58
Turkish	35	3,480	276	9	602	63	44	4,082	339
Belgian	1	962	21	.....	.....	.....	1	962	21
Total	902	506,461	13,998	36	9,279	384	938	515,740	14,382
1882	962	485,687	14,125	49	11,263	432	1,011	496,950	14,557
Difference in favor of 1883	.....	20,774	.....	.....	.....	.....	.....	18,790	.....
Difference in favor of 1882	60	.....	127	13	1,984	48	73	.....	175

SEA OF AZOFF.

Merchandise exported from the ports of the Sea of Azoff during 1883.

[One tchetvert=6 English bushels; 1 pood=136 English pounds.]

Names of ports.	Wheat.	Rye.	Barley.	Maize.	Oats.	Linseed.	Rape-seed.	Total grain.
	Tchet.	*Tchet.*	*Tchet.*	*Tchet.*	*Tchet.*	*Tchet.*	*Tchet.*	*Tchet.*
Rostov on Don	2,564,349	709,418	470,480	9,734	15,000	515,800	154,322	4,439,163
Taganrog	658,905	77,842	139,146	600	13,162	31,753	37,714	959,122
Eisk	232,215	1,450	58,180	.....	.....	28,650	33,590	354,085
Marioupol	224,003	21,140	121,949	.....	1,643	16,510	16,001	401,247
Berdiansk	497,570	16,000	54,600	100	12,058	8,050	19,426	607,804
Genitcheisk	21,494	.....	17,900	.....	.....	.....	.....	39,394
Temriouk	138,136	.....	9,970	1,640	2,458	7,200	.....	159,404
Kertch	71,067	2,600	32,796	.....	300	29,495	.....	136,258
Total	4,407,740	828,450	905,021	12,074	44,621	637,518	261,053	7,096,477
Exportation in 1882	4,329,805	632,791	530,347	173,223	53,617	1,022,860	269,288	7,011,928
Exportation in 1881	2,278,185	344,234	165,596	.....	71,796	474,607	73,528	3,407,946
Exportation in 1880	1,705,447	176,377	193,435	.....	91,594	537,156	157,626	2,889,194

Names of ports.	Tallow.	Butter.	Different kinds of caviare	Wool.	Various merchandise.
	Poods.	*Poods.*	*Poods.*	*Poods*	*Poods.*
Rostov on Don	27,160	15,979	.....	415,878	157,323
Taganrog	39,817	67,836	158,613	.....	4,147
Eisk	.....	.....	.....	43,480	.....
Marioupol	.....	.....	.....	8	200
Berdiansk	.....	645	63	.....	1,075
Temriouk	.....	.....	720	.....	670
Kertch	159	.....	5,669	779	5,018
Total	67,136	84,460	165,065	460,145	168,433
Exportation in 1882	58,557	62,782	144,822	391,394	25,278
Exportation in 1881	83,096	59,616	121,661	284,706	21,463
Exportation in 1880	146,354	41,396	144,842	276,165	18,395

EXPORT TARIFF OF ECUADOR.

New tariff of export duties decreed by the national convention at Quito, to take effect June 16, 1884.

[*Sucre* is the new coin of Ecuador of 100 cents, equal in value and weight to the *Peruvian Sol* or *dollar*.

[Tariff per 100 pounds, gross weight.]

Articles.	Sucres.	Articles.	Sucres.
Cocoa	0.30	Ivory nuts	0.10
Coffee	0.20	Rubber	2.30
Bark	0.92	Toquilla straw for hats	4.60
Hides	0.23	Moopra	1.84
Orchilla	0.23	Leaf tobacco or manufactured	1.84
Sarsaparilla	0.23	Sole leather in pieces (each)	0.50

MARTIN REINBERG,
Vice-Consul.

UNITED STATES CONSULATE,
Guayaquil, July 28, 1884.

COMMERCE OF ROUMANIA.

REPORT BY CONSUL-GENERAL SCHUYLER.

The trade statistics of Roumania, as officially published, show in 1882 a total value of importations of $53,770,384, and of exportations of $48,946,037. As compared with the two preceding years we see a wavering both in imports and in exports, owing chiefly to variations in the grain harvests.

	1880.	1881.	1882.
Imports	$51,067,000	$54,496,000	$53,770,38
Exports	43,783,000	41,293,000	48,946,037

The following table will show the value of the imports from foreign countries into Roumania, and the exports from Roumania to those countries for the years 1880, 1881, and 1882. It is in some respects incorrect, as goods imported or exported by land are set down according to the way-bills of the railways, without regard in all cases to the origin or to the ultimate destination. Austria-Hungary, Turkey, and even Germany, are thus sometimes given credit for goods which properly belong to England and France. The increase in direct exports to Germany is owing in part to new freight tariff arrangements between the German and Roumanian railways, reducing the cost of transport.

Countries.	Imports.			Exports.		
	1880.	1881.	1882.	1880.	1881.	1882.
Austria Hungary	$25, 280, 000	$26, 902, 000	$26, 902, 906	$16, 592, 000	$14, 426, 000	$14, 941, 243
Belgium	666, 000	720, 000	545, 345	500	112, 000	118, 790
Bulgaria	839, 000	814, 000	806, 686	2, 476, 000	1, 013, 000	923, 957
Egypt	.....	16, 000	93, 717	.....	6, 000	16, 875
France	3, 676, 000	4, 534, 000	4, 617, 937	5, 552, 000	3, 848, 000	5, 348, 996
Germany	4, 786, 000	6, 355, 000	6, 058, 263	144, 500	317, 000	1, 101, 387
Great Britain	11, 472, 000	10, 101, 000	9, 086, 041	11, 283, 000	16, 445, 000	19, 533, 855
Greece	721, 000	905, 000	944, 310	829, 000	483, 000	382, 763
Holland	7, 500	12, 590	8, 703	406, 000	284, 000	983, 704
Italy	308, 000	377, 000	357, 589	584, 000	925, 000	912, 044
Russia	1, 182, 000	1, 137, 000	1, 793, 826	973, 000	897, 000	1, 548, 864
Servia	116, 500	220, 000	197, 144	323, 000	238, 000	323, 891
Spain	.....	130	821	.....	.....	101, 855
Sweden and Norway	.....	.....	.....	.....	24, 000	58, 951
Switzerland	.....	231, 000	273, 715	.....	5, 000	83, 630
Turkey	1, 704, 000	2, 474, 000	2, 070, 485	4, 618, 000	2, 268, 000	2, 519, 994
United States	.....	57, 280	12, 896	.....	2, 000	45, 238
Other countries	309, 000	.....	.....	2, 000	.....	.....
Total	51, 067, 000	54, 946, 000	53, 770, 384	43, 783, 000	41, 293, 000	48, 946, 037

The following tables will show the value of imports and exports in the same years, arranged according to the principal custom-houses, as well as the amount of customs duties received. It is perhaps best to say for the sake of clearness that Constantza (Kustendjé) is the chief Black Sea port. Galatz, Braila, Tultcha, Calarash, Oltenitsa, Giurgevo, Turnu-Magarele, Calafat, and Turn-Severin are ports on the Danube, the trade of the first two being almost entirely through the Black Sea to England, France, Turkey, Russia, &c. Salina, at the mouth of the Danube, except for its own small consumption, is merely a place of transshipment, and has no independent trade. Yassy is the chief place for the direct trade across the Russian land frontier, as well as a great distributing center for Moldavia. Itzkani is the place of junction of the Roumanian railways with those of Galicia, Predeal that with the Transylvanian railway, and Verciorava that with the Hungarian railways. Bucharest, Ploesti, and Craiova are distributing points and commercial centers on the main line of railway.

The commerce of the Danube was treated in detail in my report of July 28, 1883:

Custom-house.	Value of imports.			Customs receipts.		
	1880.	1881.	1882.	1880.	1881.	1882.
Constantza	.....	$705, 943	$663, 657	$31, 111	$34, 229	$35, 242
Galatz	$6, 795, 182	6, 540, 374	6, 232, 365	310, 692	331, 711	296, 973
Braila	2, 785, 929	2, 503, 336	2, 968, 492	144, 280	164, 862	192, 060
Tultcha	.....	1, 002, 353	1, 244, 919	36, 566	64, 689	74, 222
Giurgevo	1, 166, 829	1, 457, 515	1, 291, 043	48, 616	63, 103	54, 521
Calafat	.....	690, 855	821, 645	22, 344	28, 387	35, 094
Turn-Severin	3, 017, 473	1, 983, 148	2, 066, 601	65, 619	81, 747	83, 626
Yassy	3, 037, 657	3, 677, 244	3, 436, 547	129, 441	182, 146	168, 610
Itzkani	5, 466, 659	6, 729, 754	6, 292, 634	256, 263	331, 170	345, 090
Predeal	2, 208, 989	2, 969, 080	3, 267, 663	88, 046	118, 325	134, 997
Verciorova	.....	1, 475, 161	1, 713, 667	24, 224	69, 060	72, 726
Bucharest	15, 725, 391	17, 339, 958	15, 430, 365	645, 778	788, 132	771, 985
Ploesti	.....	1, 149, 215	1, 154, 888	50, 566	66, 395	66, 619
Craiova	1, 939, 019	1, 852, 645	1, 859, 966	79, 067	107, 173	122, 846
Other custom-houses	8, 924, 155	4, 869. 910	5, 325, 932	183, 075	197, 306	197, 336
Total	51, 067, 283	54, 946, 491	53, 770, 384	2, 115, 688	2, 628, 435	2, 651, 947

Custom-houses.	Value of exports.			Customs receipts.		
	1880.	1881.	1882.	1880.	1881.	1882.
Constantza	.....	$1,354,422	$1,451,078	$10,385	$12,359	$13,313
Galatz	$6,727,055	4,729,025	4,453,152	50,537	40,110	37,968
Brăila	7,221,242	6,309,123	8,862,036	63,348	63,398	87,335
Tultcha	.....	513,787	667,658	6,824	6,037	8,161
Calarash	1,499,057	1,648,124	2,262,796	12,260	16,769	23,819
Oltenitza	1,875,402	2,506,949	2,838,274	17,471	25,523	30,023
Giurgevo	3,070,016	3,627,825	3,772,518	27,459	32,730	35,885
Turnu-Magarele	1,192,534	1,564,682	1,972,858	12,869	15,655	21,151
Calafat	1,365,795	1,697,714	2,769,168	14,329	17,116	28,575
Turn-Severin	.....	465,988	503,149	4,718	3,518	4,138
Yassy	.....	371,826	1,223,451	2,140	467	5,239
Itzkani	4,370,578	3,342,507	3,164,146	36,944	31,852	31,024
Predeal	1,827,505	1,423,571	2,198,279	12,162	11,712	19,342
Verciorova	2,578,915	3,686,782	3,924,581	25,466	34,685	39,296
Other custom-houses	12,055,677	8,051,338	8,882,396	76,583	75,771	82,865
Total	43,783,776	41,293,663	48,946,040	373,525	387,702	468,134

Arranged according to the official categories the values of the imports and exports of Roumania for the same three years are as follows. The figures in the first column are more exact than those given in my previous reports:

Articles.	Imports.			Exports.		
	1880.	1881.	1882.	1880.	1881.	1882.
Live animals	$706,563	$1,002,000	$1,120,408	$2,430,000	$3,319,000	$2,175,504
Animal food products	539,068	598,000	688,924	1,536,000	830,000	776,033
Cereals and flour	875,402	1,124,000	982,491	33,560,000	31,451,000	39,584,083
Fruit and vegetables	201,900	180,000	213,290	861,000	1,531,000	1,641,477
Colonial products	2,613,942	2,581,000	2,893,069	6,800	8,000	17,246
Liquors, wines, &c	553,205	993,000	1,252,883	153,000	54,000	46,158
Alimentary preserves and sweets	481,876	482,000	446,272	6,000	1,000	5,475
Vegetable, extracts, and medicines	367,825	553,000	605,407	18,000	7,000	5,944
Perfumery	106,964	125,000	137,776	200	260	318
Chemical products	428,590	333,000	235,741	11,000	12,000	8,724
Dyes and dyestuffs	335,538	437,000	450,747	67,000	39,000	27,714
Oils, grease, and wax	1,417,153	1,261,000	1,231,450	10,000	9,000	37,619
Animal products, except skins	11,010	21,000	24,559	166,000	156,000	219,853
Skins, furs, and leather objects	6,051,729	7,300,000	7,670,083	1,073,000	365,000	998,124
Indi arubber, gutta-percha	185,583	213,000	177,146	1,000	400	916
Textiles and textile materials	18,381,149	19,681,000	17,181,402	1,720,000	1,416,000	1,362,152
Paper, books, &c	1,660,003	1,093,000	1,172,291	39,000	7,000	19,488
Wood and wood objects	2,542,032	2,782,000	3,096,884	1,015,000	1,032,000	1,028,629
Petroleum, bitumen, &c	607,187	958,000	768,477	592,000	417,000	363,189
Minerals, glass, pottery, &c	1,496,527	1,428,000	1,759,624	53,000	81,000	51,117
Metals and metal objects	9,504,679	9,725,000	9,409,308	156,000	146,000	261,414
Carriages, &c	405,844	430,000	613,295	22,000	31,000	27,279
Art objects, &c	16,176	13,000	17,240	.....	140	852
Miscellaneous	1,576,965	1,633,000	1,519,617	287,000	380,200	286,725
Total	51,067,000	54,946,000	53,770,384	43,783,000	41,293,000	48,946,037

The following list comprises the quantities and values of the chief articles imported into Roumania during 1881 and 1882, together with the principal countries from which they were brought, arranged in the order of the preceding categories:

Imports.	1881.		1882.		Whence imported.
	Quantities.	Values.	Quantities.	Values.	
Horses ..... head	22,976	$710,866	20,704	$710,886	Russia.
Fish, dried, salted, &c. pounds	3,858,800	329,040	5,342,748	395,380	Russia.
Wheat flour ..... do	16,711,041	586,405	12,580,414	441,458	Austria-Hungary.
Macaroni, &c ..... do	756,798	49,794	663,652	43,665	Do.
Rice ..... do	9,151,430	280,990	9,651,943	296,358	England, Italy, Turkey.

Imports.	1881.		1882.		Whence imported.
	Quantities.	Values.	Quantities.	Values.	
Sugar.....pounds..	14,176,886	$1,115,136	16,904,802	$1,331,756	Austria-Hungary, France, Germany.
Coffee.....do....	2,290,306	452,075	2,163,583	427,061	England, France, Austria, Germany.
Coffee surrogates.....do....	334,033	23,442	367,827	25,814	Austria-Hungary, Germany.
Tea.....do....	133,621	70,333	111,247	58,556	England, Germany, Russia.
Tobacco.....do...	688,013	337,172	826,067	434,811	Turkey.
Ordinary wine.....do...	2,081,636	124,045	5,157,898	245,051	Austria-Hungary, Servia.
Fine wine:					
In casks.....do....	628,366	68,754	538,842	62,718	Bulgaria, Austria-Hungary, France, Turkey.
In bottles.....do....	266,567	42,337	309,739	50,900	France, Austria, Germany.
Distilled spirits.....do....	3,572,624	628,833	4,364,611	765,790	Austria-Hungary, Russia.
Olives, pickled.....do....	4,068,676	178,466	4,297,416	188,500	Turkey, Greece.
Quinine, sulphate, &c.....do....	1,386	55,939	1,395	56,307	Austria-Hungary, Italy, Germany.
Olive oil.....do...	4,340,558	571,177	4,228,589	556,444	Turkey, Greece, Austria-Hungary, France.
Vegetable oils for industry do....	2,557,515	224,363	3,025,876	265,452	Austria-Hungary, England.
Spermaceti.....do....	2,919	896	2,585	794	Austria-Hungary, Germany.
Stearine.....do....	122,716	21,531	93,949	16,484	Austria-Hungary, France.
Wax:					
Crude.....do...	84,267	29,569	112,517	39,483	Austria-Hungary, Turkey.
Prepared.....do....	51,614	27,167	25,568	13,458	Austria-Hungary, Russia.
Stearine & sperm candles, do.....	1,715,949	225,803	1,314,260	172,944	Austria-Hungary, France.
Lamb and sheep skins, raw, pounds.	1,132,723	149,056	158,673	13,919	France, England, Turkey.
Horse and cow hides, raw pounds.			926,330	162,528	Austria-Hungary.
Ordinary leather.....pounds..	3,453,899	2,120,622	3,229,129	1,982,979	Austria-Hungary, Greece, Turkey.
Fine leather.....do....	246,668	649,186	245,744	646,754	Austria-Hungary, Germany.
Furs.....do....	232,767	408,400	205,148	359,941	Do.
Ordinary leather goods....do....	547,648	576,524	522,172	549,704	Austria-Hungary.
Fine leather goods.....do....	265,987	700,028	284,497	748,745	Do.
Boots and shoes.....do....	796,510	2,236,021	971,982	2,728,619	Do.
Woolen yarn.....do....	195,342	257,053	121,928	160,447	Austria-Hungary, Germany.
Ordinary woolen tissues...do....	962,291	295,467	918,696	282,081	Austria-Hungary, England.
Woolen cloths, not printed, and flannel, pounds.	1,612,219	2,828,712	1,292,599	2,267,924	Austria-Hungary, England, Germany.
Other woolen tissues and trimmings, pounds.	1,232,068	2,702,149	1,052,105	2,307,455	Austria-Hungary, Germany, England.
Woolen hosiery.....pounds..	353,047	929,156	357,524	940,938	Austria-Hungary, Germany.
Felt goods.....do....	330,759	416,107	367,327	625,750	Austria-Hungary, England.
Silk and silk goods.....do....	475,792	280,991	541,570	304,823	France, Austria-Hungary, Germany.
Cotton.....do....	814,552	149,886	791,327	145,093	Austria-Hungary, Turkey, England.
Cotton yarn.....do....	7,918,134	2,259,129	6,161,800	1,750,787	England, Austria-Hungary.
Cotton tissues:					
Coarse.....do....	2,706,317	712,253	1,750,975	460,825	Do.
Half fine.....do....	3,949,851	1,386,038	2,825,009	991,321	England, Austria-Hungary, Germany.
Fine.....do..	3,015,529	1,587,264	2,795,423	1,471,409	Do.
Extra fine.....do....	871,556	260,765	418,543	293,741	Do.
Cotton trimmings, lace, &c.. pounds.	276,903	457,481	283,404	477,451	England, France, Germany.
Hemp, flax, and jute yarns, pounds.	526,792	113,724	547,408	133,248	Austria-Hungary, England, Germany.
Ropes and cordage.....pounds..	2,356,809	341,349	2,346,564	338,577	Austria-Hungary, Russia.
Coarse jute, hemp, and flax cloth, pounds.	3,147,181	589,708	2,601,788	475,377	England, Austria-Hungary.
All kinds of linen cloth, pounds..	942,194	489,139	837,866	449,303	Austria-Hungary Germany, England, France.
Silk goods, mixed with wool, &c., pounds.	288,061	595,973	228,274	606,266	Austria-Hungary, Germany, France.
Tanned and glazed cloth, pounds	186,595	44,053	151,939	36,413	Austria-Hungary, Germany, England.

Imports.	1881.		1882.		Whence imported.
	Quantities.	Values.	Quantities.	Values.	
Ready-made clothes and linen, pounds.	2,493,779	$1,869,423	2,149,541	$1,908,235	Austria-Hungary, Germany, France.
Articles de mode..... pounds..	76,794	123,079	107,889	166,163	Do.
Artificial flowers, &c .....do....	95,093	81,767	72,961	95,308	Do.
Mens' hats and caps ...pounds..	27,801	85,797	23,340	76,140	Austria-Hungnry, France, Germany.
Paper and paper goods....do....	5,453,917	902,149	5,827,250	972,285	Do.
Books, &c .....do....	278,287	86,998	312,693	93,230	Do.
Building timber.....tons..	163,233	1,048,304	150,401	1,229,059	Austria-Hungary, Serbia.
Common wooden-ware, pounds..	2,826,000	375,375	5,914,000	438,969	Austria-Hungary, Bulgaria.
Fine wooden-ware manufacture, pounds.	3,554,000	935,401	3,256,000	856,764	Austria-Hungary, Germany.
Extra-fine wood-work, inlaid, &c., pounds.	329,985	289,486	496,553	435,612	Austria-Hungary, Germany, France.
Clocks, wooden..... pounds..	16,652	17,530	8,751	3,949	Germany.
Coals ..... tons..	73,511	580,406	68,226	538,676	England, Aust.-Hungary.
Asphalt.....pounds..	1,387,958	36,528	1,858,014	48,900	England, France, Austria-Hungary.
Petroleum .....do....	6,466,405	170,184	1,606,614	41,127	Italy, Turkey, England, Austro-Hungary, and United States.
Bitumen, parifine, &c ....do....	1,944,756	138,483	1,957,012	112,877	England, France, Austria-Hungary.
Lime, common and hydraulic, pounds.	15,214,236	66,735	19,865,234	87,136	Austria-Hungary, France, Serbia.
Cement .....pounds..	8,452,426	74,151	22,189,583	194,663	France, England.
Bricks and tiles .....do....	22,271,220	97,790	20,626,280	90,474	Austria-Hungary, France, Italy.
Pottery and porcelain ....do....	5,446,621	310,970	5,530,089	338,924	Austria-Hungary, France, England.
Glassware ..... do....	7,328,526	577,669	7,119,526	560,753	Austria-Hungary, Belgium, England, France.
Jewelry.....pounds, troy..	1.358	547,729	1,038	415,722	Germany, Austria-Hungary.
Watches and chronometers, pieces.	9,634	148,828	11,161	142,915	Switzerland, France, Germany.
Clocks .....pounds..	28,201	27,615	32,316	31,967	Austria-Hungary, France, Germany.
Copper vessels. .....do....	255,233	134,345	203,762	107,253	Austria-Hungary, England, Bulgaria.
Copper, brass, and bronze ware, pounds.	498,469	363,741	529,533	417,145	Austria-Hungary, England, Germany, France.
Zinc, and manufactures of zinc, pounds.	436,788	85,379	322,751	85,0-8	Austria-Hungary, England, Germany.
Iron, in bars, masses, &c..tons..	9,300	326,319	9,647	338,500	England, Austria-Hungary, Germany.
Steel, cast and rough.....do....	578	65,913	364	41,520	Do.
Iron and steel rails .....do ..	13,000	798,434	6,979	428,559	England, France, Germany.
Iron tires and bands.....do....	7,190	295,405	4,072	178,612	England, Austria-Hungary.
Sheet-iron .. ..do....	3,066	188,304	2,660	163,379	Do.
Tinned, &c., iron.....do ..	2,257	237,557	2,676	281,679	Do.
Simple iron castings.....do ..	596	62,691	420	44,213	England, Austria-Hungary, Belgium.
Cast-iron articles, ornamented, &c., tons.	2,184	151,213	2,259	163,698	England, Austria-Hungary, France, Germany.
Ironmongers' ware.....tons....	792	62,619	3,785	294,697	Do.
Nails ....do....	3,577	354,105	3,839	388,352	Do.
Iron and steel screws..pounds..	455,235	79,873	743,945	130,529	England, Austria-Hungary.
Pipes, axles, anchors, chains, &c., pounds.	6,274,660	875,971	9,176,640	1,321,785	England, Austria-Hungary, Germany, Belgium.
Agricultural implements, pounds.	6,229,267	402,186	6,049,615	382,000	England, Austria-Hungary, Germany.
Cutlery..... pounds..	166,839	93,176	159,427	99,862	Austria-Hungary, Germany, Bulgaria.
Arms .....do....	1,166,413	736,725	1,469,525	714,016	Austria-Hungary, Germany, France.
Machinery.....do....	8,003,074	892,025	9,933,878	1,007,958	Austria-Hungary, Germany, England.
Wheeled vehicles..... .pieces..	53,272	411,507	21,064	601,312	Austria-Hungary, Russia, France.
Matches .....pounds..	1,153,440	404,756	1,[illegible]2,242	463,987	Austria-Hungary, Turkey, Germany.
Projectiles.....do....	1,087,415	196,727	460	23	England.
Uumbrellas and parasols, pieces.	96,985	141,059	97,149	152,851	Austria-Hungary, Germany, France.

The decrease in the import of petroleum is owing to the high duty, 30 francs per 100 kilograms, imposed in 1882 upon that article for the purpose of protecting the Roumanian petroleum industry. In order to make this applicable to the United States the Roumanian ministry refused to ratify the commercial treaty which it had signed shortly before.

As Roumania is without manufactures it is an open market for manufactured goods of all descriptions, and will increase in importance as the peasantry become educated and civilized. At present the use of foreign articles is chiefly confined to the towns-people and to the wealthy upper class, the peasants weaving or making at home such things as are required by their simple wants.

Owing to vicinity and easy communications, as well as to a favorable commercial treaty, Austria-Hungary controls the Roumanian market. The Austrian treaty, however, expires next year, 1885, and all other commercial arrangements with it, when there will be a general revision of the tariff of duties on imports. Austrian manufactured articles, destined for Roumania and other eastern countries, are distinguished for their cheapness as well as their bad quality, and cannot bear competition with more durable articles of English and French make; but they have a flashy showiness which suits those purchasers who prefer several new articles to one that will last.

The Belgians and the Swiss have of late shown much zeal in their inquiries into the commercial condition of Roumania and the neighboring countries, and much energy in pushing their interests.

The main exports of Roumania consist of cereals, live animals, animal products, timber and salt, as will be seen by the following list for 1881 and 1882:

Exports.	1881.		1882.		Whither exported.
	Quantities.	Values.	Quantities.	Values.	
Swine and pigs.....head..	178,000	$2,061,240	136,102	$1,576,061	Austria-Hungary, Germany.
Cheese.....pounds..	4,081,724	358,078	3,386,911	297,124	Turkey, Austria-Hungary.
Fish:					
Fresh.....do....	3,080,297	189,158	4,090,493	251,193	Russia, Austria-Hungary.
Salted.....do....	2,393,147	113,323	1,722,576	88,617	Bulgaria, Austria-Hungary, Turkey.
Caviare.....do....	56,173	9,138	74,184	13,469	Do.
Wheat.....bushels..	7,518,745	7,052,433	14,816,133	13,897,229	Austria-Hungary, England, France.
Rye.....do....	1,252,309	754,098	3,004,301	1,809,071	England, Holland, Austria-Hungary.
Maize.....do....	31,272,568	16,296,137	23,586,359	12,290,853	England, France, Austria-Hungary.
Barley.....do....	10,151,293	3,879,248	18,802,977	7,185,369	Do.
Oats.....do....	971,585	270,023	1,054,354	296,114	Austria-Hungary, France, Germany.
Millet.....do....	1,190,568	404,412	1,235,246	419,588	Austria-Hungary, England.
Buckwheat.....do....	29,826	7,471	20,188	5,143	Austria-Hungary.
Wheat flour.....pounds..	8,423,547	231,692	18,359,999	483,201	Turkey, Bulgaria.
Rye flour.....do....	440	6	10,472	156	Austria-Hungary, Bulgaria.
Maize flour.....do....	852,820	11,222	234,001	3,021	Austria-Hungary, Turkey.
Mealy vegetables.....do....	65,464,945	1,435,765	80,550,888	1,766,627	France, England, Austria-Hungary.
Oleaginous seeds of all kinds, pounds.	62,436,031	1,369,335	65,994,894	1,447,388	Do.
Common wines.....pounds..	1,875,124	37,580	2,130,815	33,222	Austria-Hungary, Turkey.
Raw lamb and sheep skins, pounds.	1,508,104	132,302	567,578	49,792	Austria-Hungary, Bulgaria.
Raw cattle and horse hides, pounds.	747,052	131,074	1,197,284	210,069	Do.

Exports.	1881.		1882.		Whither exported.
	Quantities.	Values.	Quantities.	Values.	
Wools:					
Greasy.....pounds..	7,118,615	$936,745	7,327,294	$964,205	Austria-Hungary, France, Turkey.
Washed, not carded ..do....	1,056,249	277,985	753,852	198,400	Do.
Building timber.....tons..	70,085	798,946	82,169	861,052	Russia, Turkey, Bulgaria.
Commonwood-work.....do....	1,206	145,290	658	73,306	Austria-Hungary, Bulgaria, Servia.
Petroleum, crude .....pounds..	22,631,686	400,592	31,134,721	347,324	Austria-Hungary, Bulgaria, Russia.
Rags.....do....	792,431	41,711	916,679	47,935	Austria-Hungary, England, Belgium.
Salt.....do....	54,719,995	312,028	48,217,376	211,499	Bulgaria, Servia, Russia.

The two following tables will show the transit trade of Roumania for 1881 and 1882. This is insignificant in extent, and consists chiefly of cereals from Bulgaria sent to Western Europe, timber from the mountains of Transylvania and Hungary sent to France and Russia, and salt from Italy and Spain sent to Bulgaria. This last item shows that, owing to keeping the price of salt too high, it being a Government monopoly, Roumania is unable to compete with Italian and Spanish salt in an adjoining country.

In transit.

Articles.	1880.	1881.	1882.
Live animals	$1,696	$45,670	$500
Fish, fresh, salted, and smoked	3,337	8,181	7,174
Animal food products	9,523	8,551	3,771
Cereals, &c	303,886	584,129	55,221
Exotic fruits	13,589	37,237	11,401
Sugar	5,483	2,681	.....
Distilled spirits	1,944	3,614	17,753
Beer	318	25	10
Medicines	94	412	750
Chemical products	519	1,141	317
Dyeing stuff	7,906	4,763	7,915
Oils, grease, and wax	3,692	9,930	3,209
Stearine candles	26	104	160
Hides and skins, raw and tanned	11,603	13,648	7,984
Boots and shoes, &c	3,065	4,479	5,836
Textile materials and clothing	82,778	36,525	79,046
Paper, &c	3,379	5,998	4,538
Wood and wood-work	12,177	14,118	8,890
Glassware, pottery, &c	1,098	1,056	3,800
Metal and metal work	8,461	9,834	17,962
Carriages, &c	63,300	430	180
Haberdashery	509	1,272	1,310
Matches	354	1,023	.....
Salt	41,140	34,088	34,123
Other articles	78,614	80,829	70,818
Total	658,986	909,688	342,662

In transit.

Countries.	Origin.			Destination.		
	1880.	1881.	1882.	1880.	1881.	1882.
Austria-Hungary	$108,589	$130,949	$152,773	$127,091	$120,409	$113,145
Bulgaria	321,926	617,479	45,402	172,518	135,163	192,332
France	1,474	2,672	1,722	144,888	53,790	.....
Germany	65,634	18,866	6,456	44,492	.....	.....
Great Britain	10,226	21,329	16,562	57,898	504,373	.....
Greece	1,190	190	2,129	.....	.....	.....
Holland	.....	.....	.....	.....	28,800	.....
Italy	36,880	19,614	34,988	.....	.....	.....
Russia	80,281	71,986	60,610	59,194	55,388	24,240
Servia	11,700	2,330	11,900	20,091	5,760	1,844
Sweden and Norway	.....	.....	.....	22,824	.....	.....
Turkey	15,388	23,013	10,120	10,893	6,005	11,601
Other countries	3,178	.....	.....	97	.....	.....
Total	658,986	909,688	342,662	658,986	909,688	342,662

EUGENE SCHUYLER,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Athens, June 25, 1884.

EFFECT OF PROTECTION ON INDUSTRIES IN GERMANY.

BY CONSUL WAMER, OF DUSSELDORF.

In a recent report to the State Department on the effect of protection on labor in Germany, I showed by reliable statistics that since the introduction of the new German tariff in 1879 the wages in 320 iron works, foundries, and machine shops in various parts of Germany had very much increased. Since then I have been able to obtain from the same reliable source, *Verein Deutscher Eisen- und Stahl Industrieller* (German Iron and Steel Industry Association), statistics of the financial results of 102 iron and machine manufacturing companies for the years 1879 and 1883, and which are herewith given.

The amount of stock capital of the 102 companies was 356,293,340 marks* in 1883, and 369,754,763 marks in 1879. In 1883 the gross profit was 25,281,905 marks, and the total loss 1,087,627 marks. This shows a net profit of 24,194,278 marks, or 6.79 per cent. In 1879 the gross profit was 8,525,599 marks, and the total loss 2,596,185 marks. This shows a net profit of only 5,929,414 marks, or only 1.60 per cent. These results show that the net profits of 1883 exceeded those of 1879 by 18,264,864 marks, or 5.19 per cent.

Of the above 102 companies 50 manufactured iron and 52 manufactured machines. The stock capital of the 50 iron manufacturing companies was 268,764,396 marks in 1883, and 279,991,487 marks in 1879. The financial results were as follows:

1883.

	Marks.
Profit	17,007,107
Loss	500,352
Net profit	†16,506,755

* One mark = 23.8 cents. † 6.14 cents.

1879.

Profit	4,857,970
Loss	2,214,322
Net profit	*2,643,648

These results show that the net profits of 1883 exceeded those of 1879 by 13,863,107 marks, equal to 5.20 per cent.

The stock capital of the 52 machine manufacturing companies was 87,528,944 marks in 1883, and 89,763,276 marks in 1879. The financial results were as follows:

1883.

	Marks.
Profit	8,274,798
Loss	587,285
Net profit	†7,687,513

1879.

Profit	3,667,629
Loss	381,863
Net profit	‡3,285,766

These results show that the net profits of 1883 exceeded those of 1879 by 4,401,747 marks, or 5.12 per cent.

According to the published balance-sheets of the 102 companies the following represents the number of those that gained and lost:

Description.	1883.			1879.		
	Gain.	Neither gain nor loss.	Loss.	Gain.	Neither gain nor loss.	Loss.
Fifty iron manufacturing companies	41	4	5	25	9	16
Fifty-two machine manufacturing companies	46	3	3	35	7	10
Total, 102 manufacturing companies	87	7	8	60	16	26

Dividends paid in 1882 § *as compared with* 1879.

	Iron manufacturing companies.		Machine manufacturing companies.	
	1882.	1879.	1882.	1879.
Number of dividends	17	33	12	23
0–1 per cent				
1–2 per cent	1	2	1	3
2–3 per cent	3	2	3	6
3–4 per cent	5	2	2	6
4–5 per cent	3	1	3	4
5–6 per cent	6	1	2	1
6–7 per cent	2	4	8	3
7–8 per cent	2		3	1
8–9 per cent	2	2	1	1
9–10 per cent	1	1	2	
10 per cent. and over	8	2	15	4
	50	50	52	52

*0.94 per cent. †8.78 per cent. ‡3.66 per cent.

§ Dividends paid in 1883 could not be obtained.

These figures, together with those I presented a short time ago on wages, show conclusively that protection in Germany is doing a great deal towards reviving the industries of the country and elevating the condition of the laboring classes. Certainly, the great Chancellor, who has, by his most wonderful faculty of foreseeing future events, achieved so much good for the welfare of his country and its people, would not be urging the adoption of a strong protective tariff if he had any doubts that it would fail to be beneficial to the country.

WM. D. WAMER,
Consul.

UNITED STATES CONSULATE,
Dusseldorf, September 3, 1884.

AN INDUSTRY CREATED BY THE NEW PROTECTIVE TARIFF OF GERMANY.

BY CONSUL LINCOLN, OF AIX-LA-CHAPELLE.

[Translation of an article appearing in the Cologne Gazette of September 4, 1884.]

THE HAT MANUFACTURE OF BERLIN.

The manufacturing of hats in Berlin has developed to an enormously important interest, owing to the activity of the manufacturers as well as to the capacity of the workmen; and this branch of industry, which ten years ago was depressed by the force of English competition in woolen-hat manufacture, has not only driven the last named wholly out of the country (certainly with the aid of the new protective tariff), but it has also managed to obtain for itself a position of repute in foreign countries.

The manufacturing of hats, which is carried on to a large extent not alone in Berlin, but in other German cities as well—Cologne, Dresden, Hamburg, Kehl, Offenbach, Darmstadt, Liegnitz—consists in the making of silk, wool-felt, cloth, and straw hats. The silk hat is made in Berlin in perfection, and at a reasonable price, and silk hats are now imported, in comparison to former times, in numbers hardly worth mentioning.

But great competition has been created for the silk hat by the much-liked and modern felt hat, for which reason the manufacture of this article, which has gradually been transferred from the hands of the retail manufacturer to the wholesale business of special manufactories, has greatly diminished, in order thereby to achieve a greater "praiseworthiness" (*Preiswürdigkeit*) of the silk hat. From Berlin these silk hats are exported to Holland, Switzerland, Denmark, and Sweden.

The export to Russia has, in consequence of the high import duty, diminished.

In hair-felt hats Berlin cannot compete with existing factories in South and Middle Germany, in Saxony, Thüringia, and Silesia. Only in the manufacture of wool-felt hats, which command at present the greatest market, can Berlin produce the finest, which have rapidly obtained a market not alone at home, but in foreign countries as well. The Berlin wool-hat manufacture competes successfully with English goods and those of other lands.

The manufacture of wool-felt hats for men and boys fulfills the hopes which one was justified in placing in this industry.

In the last year about 3,000,000 wool-felt hats were manufactured (of which two-thirds were men's, one-third boys'), representing a sale amounting to $1,428,000.

In proportion, however, to the increase of production has the profit of this manufacture diminished. The consumption consists only of very cheap qualities, which allow of only a very small profit; nevertheless our manufacturers have finished these, in comparison to the quality of cheap goods, in a lasting and tasteful manner; and this completeness in the finish of the current staple goods affords the manufacturer full business during the entire year and gives occasion for a constant enlargement of the same.

The number of working men and women employed in factories of this sort amounts to about 2,000, who are well paid, according to their skill and competency.

The workman earns, on the average, from 20 to 25 marks ($4.76 to $5.95) per week; the women one-half of these amounts.

The business of these factories is carried on through wholesale houses, which employ traveling salesmen, who supply, in the first place, the German demand, and then visit Holland, Switzerland, Belgium, the Danubian provinces, Denmark, Sweden, Italy, and for one article (the knock-about hat) find a market in England and France.

The export to countries over the sea is conducted by firms in Hamburg, and the amount is constantly increasing. And even if the amount of the money value of the export is at the present not great, still that at least has been accomplished, to export our wares side by side and with equal profit with the English, which, until within eight or ten years, controlled the markets of the world. And if this young industry, which enjoys hardly ten years' existence, continues to progress in the same ratio as it has, the German wool hat will soon drive the English from its sole occupancy of the market in many lands.

Already is the English wool hat driven from Germany. While in the year 1875 494,000 of them were imported, in 1883 England furnished only 39,000 woolen-felt hats for German consumption.

The woolen hat has driven out by its cheapness the cap, since in place of 494,000 in the year 1875, about 3,000,000 is the number representing the consumption which our metropolis covers by its manufacture.

The manufacturing itself in comparison to the importance of the article is at its height. Large factories have their own wool-spinning mills, to furnish their own material from German wool. Factories for the furnishing of hat parts and bodies afford most successful support.

The manufacture of hats from cloth, although this article for a time was in demand, but for a period neglected on account of the fashion, has been revived by good workmanship and tasteful shapes. Also for this style of product, which is only marketable in the cheapest grades, is the condition of prices very depressed.

The cloth hat (we include caps also in this category), which in Germany finds yet still a good market, is also fit for export, and finds consumers in the before mentioned countries.

Eight hundred working men and women furnish yearly about 2,000,000. The manufacture of straw hats has taken root in Berlin only for the finer and more elegant goods. The staple article for the consumption of the mass is still left to other cities.

The high tariff upon foreign straw plaits, which this branch cannot do without, works disadvantageously for the export of this article, which generally is not in a particularly favorable state for the manufacturer.

This entire manufacturing interest, so new in Berlin, which for the greater part lies in solid hands, is on the best way to become one of the most important industries of the imperial capital.

COMMERCE AND TRADE OF VICTORIA.

REPORT BY CONSUL SPENCER, OF MELBOURNE.

In anticipation of my annual commercial report I herewith transmit a summary statement of the imports, exports, shipping and customs revenue of the colony of Victoria for the year 1883, as compared with the corresponding period for 1882.

From this statement it will be seen that there has been a decrease in the imports of $4,887,131 and an increase in the exports amounting to $998,723. The decrease in the imports is to be attributed rather to an overstocked market than to a diminution in the volume of trade, and occurs principally in cotton, woolen, silk, and linen piece goods, metals, including wine, wool, and tea. The total exports are in excess of those of any previous year.

According to the official statistics the export trade divides itself under the following heads: Produce and manufacture of the colony, $64,686,949; foreign and other colonial produce, $15,118,118.

It should be observed, however, that large quantities of wool from the Riverina, New South Wales, amounting in value to not less than $6,000,000 are entered out as Victorian wool.

There has also been an increase in the aggregate tonnage of the port as compared with 1882, amounting to 157,778 tons outwards and 115,659 tons inwards.

Taken as a whole the trade of Victoria for the year 1883 was quite satisfactory.

O. M. SPENCER,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Melbourne, July 12, 1884.

Return showing abstract of the imports, exports, shipping, and customs revenue of Victoria, Australia, for 1883, *as compared with the year* 1882.

Articles.	1882.	1883.
IMPORTS.		
Cotton, woolen, silk, and linen piece goods	$10,326,796	$8,642,987
Manufactured articles of same, hats, haberdashery, &c	6,462,644	6,463,627
Boots and shoes	592,827	599,777
Bags, sacks, wool packs, cordage, twine	1,837,858	1,193,387
Metals, including wire	4,239,606	2,962,652
Manufactures of metals, including machinery, hardware, &c., ammunition, &c	4,077,553	5,138,567
Sewing-machines	579,897	577,259
Glassware, earthenware, porcelain	884,506	739,946
Acids, alkali, chemicals, drugs (including opium), gums, resin, &c	1,500,537	1,275,179
Paints, window and plate glass, paper-hangings, &c	1,093,138	930,976
Furniture, brushware, wooden ware, oil-cloth, matting, &c	1,093,021	999,024
Paper, books, stationery, printing materials	2,796,510	2,807,975
Saddlery and harness, leather-ware	191,185	188,626
Fancy goods, combs, perfumery, toys, &c	832,196	914,668
Musical instruments	561,068	476,562
Jewelry, watches, clocks, plate, plated ware, instruments (scientific, &c.)	1,227,555	1,247,318
Coal, coke, shale	1,737,423	1,875,739

Returns showing abstract of the imports, exports, shipping, and customs revenue of Victoria, Australia, for 1883, *as compared with the year* 1882—Continued.

Articles.	1882.	1883.
IMPORTS—Continued.		
Timber, cement, slates, doors, &c	$4, 042, 592	$3, 802, 956
Leather, patent, &c., leather cut into shapes	548, 367	606, 415
Hemp, flax, jute, and other fibers	539, 442	435, 654
Hides, skins, tallow, horns, &c	779, 613	763, 262
Guano, manures, bones	11, 670	49, 157
Wool	13, 308, 602	9, 945, 120
Gold and silver coin and bullion	4, 034, 747	3, 929, 674
For Government account: Stores, railway material, &c	1, 029, 343	3, 644, 118
Spirits, wine, beer	3, 694, 637	3, 727, 525
Tobacco, cigars, snuff	1, 227, 404	1, 030, 593
Hops	281, 605	454, 531
Malt	77, 188	32, 304
Sugar	6, 282, 043	6, 479, 156
Tea	3, 626, 642	2, 744, 258
Coffee, cocoa, &c	359, 809	347, 570
Candles	194, 188	105, 131
Oilmen's stores, groceries, including dried fruits, confectionery, preserved provisions, fish, salt, matches, corks, salad oil, &c	3, 054, 619	2, 796, 208
Oils in bulk—kerosene, linseed, castor, Chinese, &c	808, 048	856, 275
Rice	507, 824	485, 890
Flour, grain, maize, oats, barley, wheat, &c	733, 815	877, 702
Green fruits, seeds, plants, vegetables	602, 872	584, 666
Horned cattle, sheep, horses, pigs	3, 866, 347	4, 491, 468
All others, miscellaneous, personal effects, &c	1, 601, 799	1, 126, 497
Totals	91, 237, 536	86, 350, 405
EXPORTS.		
Gold coin and bullion	18, 032, 023	19, 059, 837
Leather	1, 694, 958	1, 829, 843
Preserved meats	455, 334	370, 579
Tallow	921, 248	1, 130, 975
Wool	28, 724, 876	29, 464, 531
Grain	3, 249, 975	1, 830, 855
All other	25, 727, 930	26, 118, 447
Total	78, 806, 344	79, 805. 067
SHIPPING.		
Outward:	*Tons.*	*Tons.*
To United Kingdom	226, 479	208, 018
To Australasian colonies	946, 898	1, 110, 444
To all other countries	168, 414	181, 117
Total outward	1, 341, 791	1, 499, 579
Inward:		
From United Kingdom	855, 164	346, 039
From Australasian colonies	782, 237	899, 661
From all other countries	211, 692	219, 052
Total inward	1, 349, 093	1, 464, 752
REVENUE.		
Duties on spirits, wine, beer	$2, 629, 829	$2, 708, 597
Duties on sugar, tea, coffee, &c	1, 064, 382	1, 123, 169
Duties on tobacco, cigars, snuff	520, 730	588, 730
Duties on other goods	4, 670, 200	4, 498, 787
Excise on spirits and beer	554, 995	261, 234
Excise on tobacco, cigars, snuff	350, 700	344, 874
Wharfage and harbor rates	143, 445	133, 079
Tonnage	140, 155	137, 308
Fees, fines, &c	57, 585	72, 856
Total	10, 123, 021	9, 868, 634

CROPS IN THE KINGDOM OF BAVARIA FOR THE YEAR 1883.

REPORT BY CONSUL HARPER, OF MUNICH.

HOPS.

The general results have been satisfactory.

The consumption of the new crop of hops in Germany has been unusually large because the old crop was exhausted, consequently the rise in price was unusually great in proportion to the crop. The stock on hand has sensibly diminished. The price, according to quality, was $35.70 to $47.60 per 100 pounds.

The plucking is done so carelessly that a second plucking is generally necessary. It seems a pity that the district authorities and agricultural unions do not endeavor to rectify this fault. This is more necessary as the American hops, which are carefully plucked, actually compete with the Bavarian to the disadvantage of the carelessly plucked home hops.

GRAIN AND VEGETABLES.

The grain and vegetable crop was a rich one, both as regards quality and quantity.

Oats, which prosper best in Upper Franconia, and which have a good foreign reputation, turned out excellently and were exported in large quantities to the Rhine district and North Germany, notwithstanding the rivalry of Russian oats, which were offered at cheap figures in spite of the duty.

Barley, which was cultivated after oats, also produced a good crop, and was sufficient for home consumption.

The breweries, however, which are large consumers, show a preference for the quality of the barley from Bohemia and Saale. It seems from the large quantities of Bohemian malt used by the breweries that the duty on malt is too low in proportion to that on barley.

Wheat and corn are not so important, as the duty on these is too low to prevent considerable importation.

The foreign grain is superior in quality to Bavarian, and to protect the industry a higher duty is necessary.

At present, the principal importations are from America, Russia, Hungary, and lately from the East Indies. The exportation of these articles from the East Indies in 1883–'84 was nearly double that of 1881–'82.

In the first part of 1883 the importation of corn was large, owing to scarcity. In the second half of 1883 the importation was greatly reduced, owing to an abundant home crop.

The excellent potato and fruit crops, and the competition of the Berlin mills, who were able to offer rye flour at a cheaper price than our mills lessened the demand for home rye.

While bran sold in Northern Germany for $1.31, it only brought 95 cents in Bavaria.

The vegetable crop was very good in quality, but only middling in quantity.

FRUIT.

The crop of cherries and pears was very good, but small of plums. The price of dry pears was from $3.57 to $3.81 per 100 pounds.

The deficiency on plums was supplied partly from Bohemia and partly from Serbien.

The crop of clover seed was a small one, covering only one-third of the demands, necessitating importation from America, Austria, and Hungary.

GARDENS.

Gardenry was much extended and improved, and great attention was paid to the training of young gardeners in cultivating market plants, flowers, trees, and in making ornamental beds and gardens.

Average price of provisions.

Articles.	1881.	1882.	1883.
IN BAYREUTH.			
2 pounds rye bread	$0 08	$0 08	$0 07
100 pounds rye flour	3 75	3 10	2 86
100 quarts potatoes	97	1 10	83
2 pounds beef	29	30	31
2 pounds veal	21	25	26
2 pounds mutton	24	26	28
2 pounds pork	29	30	30
1 quart grease	43	42	44
2 pounds butter	45	44	45
12 eggs	13	14	14
2 pounds salt	05	05	05
1 quart summer beer	05	05	05
1 quart winter beer	05	05	05
IN KULMBACH.			
2 pounds rye bread	07	06	06
100 quarts potatoes	96	1 12	83
2 pounds beef	27	29	30
2 pounds veal	22	22	23
2 pounds mutton	25	26	27
2 pounds pork	29	29	30
1 quart grease	49	49	49
2 pounds butter	48	47	48
1 egg	01	01	01
1 quart beer			05
IN BAMBERG.			
2 pounds ox meat	28	29	30
2 pounds cow meat	22	23	24
2 pounds veal	22	23	23
2 pounds pork	29	29	29
2 pounds mutton	23	23	23

COFFEE, SUGAR, ETC.

The price of coffee increased considerably.

Sugar was never so low before.

Spices remained about the same, with the exception of pepper, which increased in price. A large business is done directly with the seaports in 10-pound parcels by post.

SPIRITS AND VINEGAR.

As a result of the large crop of potatoes in 1883 the distilleries have been kept constantly busy.

The stocks on hand are now large, and the prices are low. On account of the mild winter the consumption was unusually small.

WOOD.

In consequence of the low duty Bavaria suffers much by competition with Bohemia and Hungary, whence the importation is large.

Without better protection the Bavarian wood and forestry industry can never be improved.

JOSEPH W. HARPER,
Consul.

UNITED STATES CONSULATE,
Munich, Bavaria, July 30, 1884.

RUSSIA'S GOLD PRODUCTION.

REPORT BY CONSUL-GENERAL STANTON, OF ST. PETERSBURG.

According to Suess the present gold production of the world is about $117,000,000, two-thirds of which are gained from placer washings.

From 1820 to 1850 Russia ranked first among gold-producing countries, yielding at the time of the discovery of the mines of America and Australia 12.7 per cent.; from 1861 to 1870, 14 per cent.; and at the present time about one-fifth of the world's production.

As elsewhere, gold is gained in Russia either by quartz crushing or placer washing, the yield of the latter system far exceeding that of the former.

Russia's gold-bearing districts are:

I. The Ural district.

II. Western and Eastern Siberia.

III. Portions of Northern European Russia and the Caucasus.

Beyond these no other gold districts are known to exist in Russia.

I.—THE URAL DISTRICT.

The production of gold in this district began in 1745, when gold-bearing quartz was found on the Pishma, a branch of the Tobol, northeast of Ekaterinenburg. Up to 1810 the yield of these mines steadily increased, reaching in that year its height with 795½ pounds of fine gold; gradually decreasing, however, until in 1838 it amounted to but 84 pounds.

Nearly thirty years after the opening of these quartz mines in 1774 the first placers were accidentally discovered, and from that time more attention, with greater success, was paid to gold washing than to quartz mining. From 1822 the yield of the placers exceeded that of the mines, and has constantly increased.

From 1754 to 1845 the Ural district yielded: From quartz crushing, 22,186 pounds. From 1818 to 1845: from placer washing, 206,300 pounds.

The district is mined by the Government and by private enterprise with the results given below:

Year.	Total yield of gold.	Average annual gold production.	Total amount of sand washed.
	Pounds.	*Pounds.*	*Tons.*
1814–'60	468,436	9,966	166,096,807
1861–'65	56,339	11,268	26,355,897
1866–'70	71,842	14,367	29,319,198
1871–'75	65,701	13,330	25,514,164
1876–'80	89,532	17,952	30,667,654

The total gold production of the Ural district from 1814 to 1880 was 751,850 pounds.

Quartz crushing, with which mining in Russia began, has year by year proved less remunerative. Gold washings have yielded annually more, private mines being more successful than Government ones; and the whole district since 1878 has been worked by private enterprise alone.

The quantity of sand washed as well as the amount of gold won has steadily increased, but the latter is due to the discovery of new placers and not to an increased richness of the sand, since the older washings are being gradually exhausted.

II.—Asiatic districts.

The regular mining of precious metals in Siberia began in 1704. The first metal found was silver, which was discovered at Nertshinsk.

This mine yielded from 1704 to 1870 973,449 pounds of auriferous silver. In 1745 gold mining was begun on Suake Mountain, one of the Altai range, and during the century the mine yielded 76,320 pounds of pure gold and 2,764,800 pounds of silver. Since then, however, the yield of this mine has so much decreased that it is at present merely nominal.

In 1829 the first gold placers were discovered, but the yield was unimportant. The following year other and richer fields were found, and from this time gold washing was regularly begun in Siberia.

The government having reserved the entire Nertshinsk district, private individuals began to prospect the country lying between the Tour and Yenissei, discovering several, though not particularly rich, placers.

Crossing the Yenissei in 1834 these prospectors pressed on to Eastern Siberia, where gold fields were found in the Miausiask district, and in 1836 rich fields were discovered at the source of the Chorma. The yield of these fields encouraged further search, and in 1839 a rich field was found on a small stream emptying into the Uderei, and in the same year the rich field of Krestovodrishensk was discovered.

Further prospecting lead to the discovery of the still richer fields of the Lena district. In Western Siberia private mining had in the meanwhile extended farther and farther, and in 1864 permission was given to mine the Nertshinsk district.

Siberia is divided into two great districts, viz, Western and Eastern Siberia, which we shall consider in that order.

a. Western Siberia.

The mining districts of Western Siberia are the Altai Mountains, the Maryinsk district, the Akmolinsk, Sempalatinsk, and Semiretshinks regions. The first two are the most important, and have respectively produced up to 1880, the former 87,962 pounds and the second 80,802 pounds.

The following table gives the total production of all West Siberian mines:

Year.	Total yield of gold.	Average annual yield of gold.	Total amount of sand washed.
	Pounds.	*Pounds.*	*Tons.*
1861–'65	12, 299	2, 461	6, 270, 566
1866–'70	20, 254	4, 050	8, 260, 032
1871–'75	27, 960	5, 591	14, 811, 053
1876–'80	26, 696	5, 290	30, 960, 160

The total amount of gold found in Western Siberia from 1829 to 1880, is 174,520 pounds. Excepting that extracted from silver in the Altai district, the whole amount is the product of washings. The yield, the number of mines worked, and the quantity of sand washed have steadily increased, while the percentage of gold contained in the sand has constantly decreased.

b. Eastern Siberia.

The mines of this district are far richer than those of Western Siberia. They are situated in the Atshinsk, Minushinsk, Krasnoyarsk, Yenissei, Kansk, Nijni-Udinsk, Irkutsk, Wercho-Lensk, Werchnie-Udinsk, Bargusinsk, Nertshinsk, Priamursk, Olekminsk, and Amoor, districts, and also along the coast of Eastern Siberia.

The two first mentioned yielded from 1834 to 1880, 88,254 pounds of gold. The Krasnoyarsk mines are wholly unimportant, while those of the Yenissei district belonged to the richest of Eastern Siberia, and produced from 1841 to 1880 872,365 pounds. These mines were at their height in the period 1846 to 1850, when about 25,000 laborers were employed.

The gold fields of the Kansk and Nijni-Udinsk districts are also among the richer ones, and produced from 1841 to 1880 63,346 pounds. The mines of the Irkutsk district are unimportant and worked irregularly, as are also those of the Wercho-Lensk and Werchnie-Udinsk districts. The Bargusinsk is one of the wealthier regions, and has yielded from 1856 to 1880 44,672 pounds.

The Nertshinsk mines belong to the richest of Siberia, and yielded from 1836 to 1880 227,619 pounds. The Priamursk district is unimportant, whilst the mines of the Olekminsk territory have been among the most productive in Siberia. They yielded from 1851 to 1880 416,206 pounds of gold.

The mines of the Amoor district consist of four groups, whose united production from 1868 to 1880 was 75,145 pounds of gold. The mines of the coast district are unimportant, their production from 1871 to 1880 being but 2,919 pounds. The following table gives the total production of the mines of Eastern Siberia:

Year.	Total yield of gold.	Average annual gold yield.	Total amount of sand washed.
	Pounds.	*Pounds.*	*Tons.*
1832–'60	740, 678	25, 539	158, 940, 215
1861–'65	195, 966	39, 193	108, 149, 306
1866–'70	239, 492	47, 898	98, 391, 917
1871–'75	292, 222	58, 445	105, 659, 452
1876–'80	330, 202	66, 040	113, 007, 480

The total gold production of Eastern Siberia from 1832–'80 is 1,798,560 pounds. Almost the whole of this amount is gained by washing. The amount of gold produced has steadily increased. The most important districts being Yenisseisk, Nertshinsk, Olekminsk, and the Amoor; next in importance are the districts of Bargusinsk, Atshinsk, Minushinsk, Kansk, and Nijni-Udinsk; the remaining districts have but little influence on the total production.

The number of placers and the quantity of sand washed have increased while the percentage of gold contained in the sand has decreased in all districts but that of Olekminsk.

III.—GOLD MINES OF FINLAND, ARCHANGEL, AND CAUCASUS.

The gold mines of Finland are situated in a portion of Finnish Lapland in the Government of Meaborg, where both soil and climate form serious obstacles to mining and the yield is altogether unimportant. The mines of the Government of Archangel, situated in the district of Kemsk, are barely worth mentioning, while the mines of the Caucasus are scarcely more important.

The foregoing embrace all the gold-bearing regions of Russia as far as is at present known. The gold gained is obtained almost exclusively from washings, which, beginning in the Ural Mountains, have steadily progressed eastward. The production has gradually increased, the average annual yield being: From 1861 to 1865, 52,920 pounds; from 1866 to 1870, 66,312 pounds; from 1871 to 1875, 77,480 pounds; from 1876 to 1880, 89,280 pounds.

RESUMÉ.

The richest gold fields are situated in Eastern Siberia, those of the Olekminsk district being apparently the richest, the total production being as follows: Ural district, from 1814 to 1880, 751,850 pounds; Western Siberia, from 1829 to 1880, 174,520 pounds; Eastern Siberia, from 1832 to 1880, 1,798,560 pounds.

The following table gives the total production of all the gold-bearing districts in Russia:

Date.	Total yield of gold.	Ural.	Siberia. Western	Eastern Siberia.	Finland.
	Pounds.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
1814–'60	1,296,486	36.2	6.7	57.1	.....
1861–'65	264,614	21.3	4.6	74.1	.....
1866–'70	331,630	21.7	6.1	72.2	0.01
1871–'75	387,300	17.2	7.2	75.5	0.10
1876–'80	446,470	20.0	6.0	74.0	0.02
1814–'80	2,726,500	27.6	6.4	66.0	0.01

The originally high percentage of gold in Russian placers has, with the exception of the mines of Olekminsk, invariably decreased, and in some instances the places have been exhausted.

In contrast to this fact the production of gold has annually increased. This anomaly finds its explanation in the fact that the mines, successively developed, were not simultaneously exhausted; that beginning in the Ural Mountains, the gold-producing center, moving gradually eastward, revealed new fields whose virgin wealth made good the decrease of the older mines; and that the amount of sand washed, as well as the extent of country worked, has constantly and enormously increased.

Thus from 1814 to 1820 the entire gold production was but 4,104 pounds, and was found in the Ural Mountains.

From 1820 to 1830 the yield was 75,816 pounds, the Ural Mountains producing the greatest amount, although the last half of the decennium the westerly Siberian mines began to contribute their share.

From 1831 to 1840, the production was 155,808 pounds, or 7,992 pounds annually in excess of the yield of the preceding period. In this decennium the West Siberian mines were most productive, whilst those of the Ural district were already showing signs of exhaustion. From 1835 the Eastern Siberian mines began to yield a considerable amount.

The production of the following decennium, 1841 to 1850, was 485,532 pounds, or annually 32,940 pounds more than that of its predecessor. During this period the mines of Eastern Siberia were at their height, the Yenisseisk district alone yielding during these 10 years 287,064 pounds.

From 1851 to 1860 the yield was 564,382 pounds, two-thirds of which came from Eastern Siberia, the private mines of that district alone contributing 370,800 pounds.

The following, periods 1861 to 1870, produced 596,232 pounds. The mines of the Biryussa and Yenisseisk were already becoming exhausted, whilst those of the Bargusinsk and Nertshinsk districts were becoming more and more productive.

During this period the whole Ural district yielded but 128,160 pounds, whilst the Bargusinsk and Nertshinsk mines alone produced 95,760 pounds.

From 1871 to 1880 the total production was 833,724 pounds, or 237,492 pounds more than in the preceding decennium. The center of production has reached the rich Olekminsk district, and their increasing yield is attracting the attention of miners to the fields of the Amoor district.

During the first mining period, 1814 to 1860, about 300,000,000 tons of sand were washed, whilst nearly 370,000,000 tons were washed in the second period, 1861 to 1880, or 70,000,000 tons more in less than half the time.

The gold production of the first period was in round numbers about 1,296,000 pounds, and in the second period about 1,404,000 pounds. The annual average production was in the first period 27,540 pounds, and in the second period 70,200 pounds, so that in the former 8,136, and in the latter 9,464 tons of sand yielded 36 pounds of gold.

The center of production has now reached the Yakutsk district, and, as the natural boundaries of Siberia must soon be reached should the easterly progressive movement continue, and as the various gold fields from the Ural Mountains eastward are being rapidly exhausted, and no new fields of any importance have been recently discovered, it is safe to assume that Russia, as a gold-producing country, has already attained, or nearly so, her greatest height.

EDGAR STANTON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
St. Petersburg, June 28, 1884.

TRADE IN HANKOW IN 1883.

REPORT BY CONSUL SHEPARD.

The year 1883 will long be memorable, in the valley of the Yangtze, for a combination of adverse circumstances disastrously affecting both social and business life. The destructive floods of the year previous entailed great poverty among the people, driving population from the rural districts to the riverine cities. This unnatural aggregation of unemployed masses generated new suffering, and led to much lawlessness and criminality, which was so ill suppressed that a reign of terror actually prevailed among the people.

The serious political disturbances of May and June were an outcome of this state of unrest, more or less directly. The narrative of these

events, as transmitted in dispatch No. 119 *et sequentes*, is so full it needs no enlargement, but the widespread terror, among both populace and rulers, displayed the fact that each class distrusted and feared the other, and demonstrated the existence of disaffection that is liable, at any time, to break out into extensive rebellion.

The disturbed state of affairs between France and China was another fertile source of trouble in business circles, and all branches of trade were sadly interfered with. Those who had capital feared to invest it, and the effects were visited upon the laboring classes who were deprived of many ordinary sources of employment. Unusual poverty and suffering necessarily followed.

As a final climax of the commercial disaster, the largest native bankers were proved to be very extensively bankrupt, from unreasoning speculations, and before the closing month of the year financial chaos was everywhere apparent.

The natural effects of these combined phenomena were seriously felt upon foreign business, as well as domestic, throughout this consular jurisdiction. I inclose as an appendix to this report, and as a part of it, the trade returns for Hankow of the imperial maritime customs, which give a complete statement of all business transacted at the port through the foreign customs. These tables present the business of the port much fuller than I could do by special tabulation. What of these records specially appertain to trade with the United States, however, I have carefully compiled, and reduced quantities and values to United States standard. Notwithstanding the general stagnation of business, it will be noted that very little has been lost to the limited American trade, while some remarkable increase is evident.

The shipping in American control has remained in its limited dimensions, being confined solely to a domestic business in lorchas and native junks. None but the former display the flag on the river, and while these vessels are recorded as owned by Americans, as they have American masters, they are doubtless largely sustained by Chinese capital.

Number and tonnage of American vessels entered and cleared at Hankow, for the year 1883.

Time.	Entered.				Cleared.			
	Lorchas.		Junks.		Lorchas.		Junks.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
First quarter	13	2,366	25	Not measured.	16	2,824	5	Not measured.
Second quarter	15	2,781	26	..... do.....	15	2,753	24	..... do.....
Third quarter	16	3,049	6	..... do.....	12	2,347	8	..... do.....
Fourth quarter	7	1,334	17	..... do.....	8	1,380	18	..... do.....
Total	51	9,530	74	..... do.....	51	9,304	55	..... do.....

At the beginning of the year there were in port 4 lorchas measuring 576 tons, and on December 31 there remained in port 4 lorchas measuring 802 tons. It is to be observed that the only American on board these vessels is the master, and hence no transactions with seamen occur, all hands being natives. The excess of junks entered over the clearance is accounted for by the fact that junks from Ichang enter, but none ever clear for ports farther up the river.

The American imports, presented in the following table, arrive here either from Hong-Kong or from Shanghai. The quantities are compared

with the previous year, and a slight decrease appears in both sheetings and drills, while other classes of goods exhibit an increase. In the article of kerosene this is remarkable, and while a special report has been made to the minister, the details are repeated here as properly belonging to the year's exhibit.

IMPORTS OF UNITED STATES PRODUCTS.

Imports to Hankow of articles produced in the United States for the years 1882 *and* 1883.

Merchandise.	1882.	1883.	Gold value.
Sheetings ..... pieces..	20,070	19,696	$75,940 02
Drills ..... do....	33,907	39,645	177,461 10
Twills and jeans ..... do....	1,180	620	1,885 08
Ginseng, clarified ..... pounds..	134,940	68,896	294,340 20
Ginseng, crude ..... do....		1,399½	2,884 20
Kerosene ..... gallons..	483,974	1,322,771	206,163 72

Detailed and comparative statement of kerosene imported in 1882 *and* 1883.

Time.	1882.	1883.	Gold value.
	Gallons.	*Gallons.*	
January 1 to March 31	130,410	192,280	$206 163 72
April 1 to June 30	67,264	233,672	
July 1 to September 30	116,600	259,055	
October 1 to December 31	169,700	637,969	
Total	483,974	1,322,771	

Increase 838,797 gallons = equal to plus 173 per cent.

The only interference with sale or use of the article was at Walhang, from fear of incendiary uses; but as the fright at the rebellion died away, the restriction has fallen into abeyance, and before long its introduction there will be unimpeded, as in other quarters.

Declared exports from Hankow to United States direct for 1883.

Articles.	Quantities.	Gold value.	Remarks.
Tea ..... pounds..	140,180	$124,139 13	Mainly via Great Britain.
Nutgalls ..... cases..	186	2,806 10	
Total		126,945 23	

The internal transit pass business has been, as heretofore, largely in American hands. The total number issued by the customs was 41,873, of which 18,264, or nearly 44 per cent., were issued to American forwarders.

Some civilized progress has been noticeable during the year, which gives promise of still greater advancement for the Empire. It has been a frequent record of opinion in these reports, that nothing short of violence would force this conservative nation to abandon customs petrified by age. This idea has had positive verification in the political necessities resulting from the French claims in Annam. The imminence of war, and its subsequent initiation, made frequent communications necessary between distant provinces and the capital, and the magnetic telegraph was adopted. Its usefulness was practically demonstrated, and

its speedy adaptation to commercial purposes was so manifest that surveys were made for its establishment in the Yangtze River ports. Surveys have been made as far as Hankow, the building of the line commenced, and another year will doubtless see the completion of a telegraph from this port to connecting lines that reach around the world. Railroads must follow at no distant day.

ISAAC T. SHEPARD,
Consul.

UNITED STATES CONSULATE,
Hankow, June 17, 1884.

TRADE AND COMMERCE OF BELIZE.

REPORT BY CONSUL MORLAN.

The total trade of British Honduras for the year ending December 31, 1883, was as follows: imports $1,344,865, exports $1,514,348, making a grand total of $2,859,213, an increase over the previous year of $541,639, or about 23 per cent. So that in spite of the dismal croaking of some of the people here who did not wish to see the colony paying a subsidy to steamers between the colony and the United States, and who feared the loss of the trade with the Central American Republics, the trade of the colony seems to be steadily increasing.

The following tables show the general trade of the colony since the year 1880:

Year.	Imports.	Exports.	Total.
1880	$1,186,001	$1,262,886	$2,448,887
1881	1,009,057	1,237,013	2,246,070
1882	1,164,411	1,253,163	2,417,574
1883	1,344,865	1,514,348	2,859,213

The total trade for the above four years with Great Britain, the United States, Central America, and all other countries, was devided as follows:

GREAT BRITAIN.

Year.	Imports.	Exports.	Total.
1880	$614,320	$586,440	$1,200,760
1881	547,760	687,550	1,235,310
1882	591,290	669,890	1,261,180
1883	744,159	887,427	1,631,586

UNITED STATES.

1880	$331,060	$287,345	$618,405
1881	408,260	268,295	676,555
1882	498,247	327,475	825,720
1883	452,735	253,071	705,806

CENTRAL AMERICA.

Year.	Imports.	Exports.	Total.
1880	$214,290	$234,226	$448,516
1881	40,860	212,605	253,465
1882	60,600	171,555	232,155
1883	106,697	351,713	458,410

ALL OTHER COUNTRIES.

1880	$36,330	$154,875	$191,205
1881	12,175	68,559	80,734
1882	14,265	84,188	98,453
1883	41,274	22,137	63,411

From the above it will be seen that the principal increase has been with Great Britain and Central America, the increase with the latter being very nearly 100 per cent., and showing a very healthy state of trade. In the return of trade with Great Britain it is almost impossible to find the exact proportions in the trade in the produce and manufactures of Great Britain and the re-exportations. Undoubtedly a very large proportion of the imports therefrom are the produce and manufacture of other countries, as, for example, preserved provisions, value, $20,971; rice, 13,505; musical instruments, 4,220. I have seen American clocks that came through Great Britain, and the commissariat here recently received a large consignment of Chicago corned beef from there. The articles under the headings of haberdashery, fancy and cotton goods, wines and liquors, are also undoubtedly largely made up of German and French goods, as the trade with these countries makes a small showing on the returns. The same may be said of the exports to Great Britain, as you will notice that, with the exception of the United States, all the mahogany, cedar, and other woods and dyestuffs, excepting log-wood, went to Great Britain. As these woods are used to a considerable extent in Europe for manufacturing furniture, boxes, &c., they must buy in England.

The return of trade with the United States for the year 1883, shows a slight decrease from that of 1882, but a steady increase over the year 1880–'81, and it may safely be said that the trade is genuine and lasting and will continue to increase. It is also composed almost entirely of the produce and manufacture of the countries, and, as regards the imports, they are undoubtedly equal to those of Great Britain, were those of the latter country divested of foreign goods re-exported.

Inclosure A shows the relative trade between the colony and the United States and Great Britain.

The following tables show the amounts of the principal articles of import and export between the colony and the United States during the years 1882 and 1883, and the increase and decrease thereof.

IMPORTS.

Articles.	1882.	1883.	Increase.	Decrease.
AD VALOREM DUTY.				
Bacon and hams	$9,670	$12,171	$2,501	.....
Bread and biscuits	7,431	8,296	865	.....
Boots and shoes	10,764	25,608	14,844	.....
Butter	13,568	13,665	97	.....
Cheese	3,353	4,611	1,258	.....

IMPORTS—Continued.

Articles.	1882.	1883.	Increase.	Decrease.
AD VALOREM DUTY—Continued.				
Coco and chocolate	$2,676	$2,874	$198	
Coffee	114	1,354	1,240	
Confectionery	682	1,037	355	
Cotton goods	35,337	48,844	13,507	
Drapery, millinery, &c	3,425	3,849	424	
Drugs and chemicals	7,172	12,020	4,848	
Earthenware and glass	3,731	2,822		$909
Fancy goods	3,692	1,258		2,434
Fish (salted)	9,607	13,053	5,646	
Flour	71,037	61,593		9,464
Fruits (green)	1,597	1,079		518
Furniture	682	4,730	4,048	
Hardware an cutlery	13,187	11,217		1,970
Hay and oats	1,396	1,702	306	
Iron (galvanized)	4,968	58		4,910
Jewelry and plate	2,671	3,772	1,101	
Lard	8,883	9,849	966	
Leather	10,168	2,213		7,955
Musical instruments	1,117	2,060	943	
Oils (mineral)	5,588	7,320	1,732	
Oils and paints	333	1,225	892	
Peas and beans	3,518	2,908		610
Preserved provisions	5,829	6,038	209	
Rope and twine	2,064	3,822	758	
Saddlery and harness	749	1,140	391	
Ship chandlery	4,325	2,297		2,028
Sundries	37,367	14,539		22,828
Sewing-machines	776	2,650	1,874	
Soap	990	2,161	1,171	
Wood and wickerware	2,957	4,828	1,871	
SPECIFIC DUTY.				
Ale, beer, and cider	4,163	4,686	523	
Beef and pork	59,356	62,459	7,103	
Whisky	582	1,531	949	
Tobacco	15,486	12,358		2,038
FREE.				
Agricultural implements	579	2,329	1,750	
Animals (live)	1,896	1,005		891
Bullion and coin	47,348	24,113		23,225
Government stores	1,082	400		682
Ice	498	1,900	1,402	
Lumber	21,418	20,534		984
Machinery	11,682	3,181		8,501
Shooks and staves	4,572	1,408		3,164
Tanks and vats	2,264	1,057		1,207
Vegetables	3,834	3,954	120	
Vessels and boats	1,638	850		888
Articles not noted above	5,158	12,297	7,139	
Total	498,247	452,735	49,694	95,206
Net decrease		45,512		45,512

EXPORTS.

Bananas	$10,980	$38,140	$27,260	
Cedar	137	2,012	1,875	
Cocoanuts	23,888	21,340		$2,540
Bullion and coin	79,315	59,079		20,236
Hides and skins	6,808	4,496		2,312
Logwood	49,946	6,847		43,099
Mahogany	50	6,194	6,144	
Plantains	400	7,528	7,128	
India rubber	16,233	21,698	5,465	
Sarsaparilla	12,897	4,846		8,051
Sugar	92,645	86,153		6,492
Total	327,475	253,071		74,404

The most noticeable are—

IMPORTS.

Articles.	Increase.	Articles.	Decrease.
Boots and shoes	$14,844	Flour	$9,464
Cottons	13,507	Iron (galvanized)	4,910
Drugs and chemicals	4,848	Leather	7,955
Fish	5,646	Sundries	22,828
Furniture	4,048	Bullion and coin	23,225
Beef and pork	7,103	Machinery	8,501
Fancy goods	2,434		

EXPORTS.

Bananas	$27,260	Bullion and coin	$.0,236
Mahogany	6,144	Logwood	43,079
Rubber	5,465	Sarsaparilla	8,051
Blantains	7,128	Sugar	6,492

A.—*Comparison of the trade of the United States and Great Britain with the colony of Belize.*

IMPORTS.

Articles.	United States.	Great Britain.
AD VALOREM DUTY.		
Aerated waters		$1,894
Anchors and chains	$176	1,724
Bacon and hams	12,171	497
Books and stationery	760	4,660
Bread and biscuits	8,296	1,840
Boots and shoes	25,608	5,348
Bricks		2,051
Brushware	621	253
Butter	13,665	6,005
Candles	797	5,109
Cement and lime	188	609
Cheese	4,611	2,376
Clothing	951	9,431
Cocoa and chocolate	2,874	1,162
Coffee	1,354	
Copper	18	3,191
Confectionery	1,037	5,291
Cotton goods	48,844	200,101
Drapery, millinery, and haberdashery, &c	3,849	100,301
Drugs and chemicals	12,020	11,453
Earthenware and glass	2,822	13,303
Fancy goods	1,258	10,369
Fish (salted)	13,053	
Flour	61,593	
Fruits	1,079	
Furniture	4,730	2,238
Gunpowder	113	5,957
Guns and pistols	646	13,805
Hardware and cutlery	11,217	39,485
Hats	234	9,034
Hay and oats	1,702	303
Iron fencing	1,031	801
Iron (galvanized)	58	9,713
Jewelry and plate	3,772	4,113
Lamps	854	1,078
Lard	9,849	23
Leather	2,213	898
Musical instruments	1,117	4,220
Oilmen's stores	716	14,061
Oils (mineral)	7,320	10
Oils, paints, &c	1,225	5,572
Peas and beans	2,908	34
Preserved provisions	6,038	20,971
Pitch and tar	889	791
Rice	769	13,505
Rope and twine	3,822	8,577
Salt	8	2,474

A.—*Comparison of the trade of the United States and Great Britain with the colony of Belize*—Continued.

IMPORTS—Continued.

Articles.	United States.	Great Britain.
AD VALORUM DUTY—Continued.		
Saddlery and harness	$1,140	$1,844
Ship chandlery	2,297	2,737
Silk	12,132	.....
Sundries	14,539	19,108
Sewing-machines	2,650	800
Soap	2,161	31,135
Wood and wickerware	4,828	263
Woolen goods	.....	21,645
SPECIFIC DUTY.		
Ale, porter, and cider	4,686	18,676
Beef and pork	62,459	90
Cigars	285	263
Cordials	24	2,257
Brandy	.....	19,723
Gin	.....	3,050
Rum	.....	250
Whisky	1,531	39
Sugar	1,514	2,933
Tea	825	1,386
Tobacco	12,358	2
Wines: Port, sherry, Madeira, and champagne	.....	5,263
Wines, other sorts	215	19,714
FREE LIST.		
Agricultural implements	2,329	324
Horses and mules	970	250
Other animals (live)	35	.....
Books (printed)	785	4,156
Bullion and coin	24,113	.....
Coal and coke	80	278
Government stores	400	5,191
Indian corn	375	.....
Ice	1,900	.....
Lumber	20,534	.....
Machinery	3,181	14,153
Plants and seeds	204	.....
Plant for railroad	20	.....
Pumps	303	264
Shooks, staves, &c	1,408	7,912
Tanks and vats	1,057	1,184
Vegetables	3,954	9
Vessels and boats	850	.....
Total	452,735	744,159

EXPORTS.

Bananas	$38,104	.....
Books (printed)	.....	$275
Brazilletto	.....	276
Boats and vessels	.....	2,100
Bullion and coin	59,079	19,184
Cedar	2,012	29,795
Cigars	.....	125
Cocoanuts	21,340	4,344
Fustic	.....	158
Hides and skins { Produce of colony 1,346 / Re-export 3,158 }	4,496	.....
Lignum-vitæ	60	75
Limes	109	.....
Logwood	6,847	229,437
Machinery	165	475
Mahogany	6,194	498,690
Mangoes	30	.....
Metals (old)	611	243
Molasses	25	.....
Oranges	60	.....
Pears (alligator)	24	.....
Pineapples	283	.....
Plantains	7,528	.....

A.—*Comparison of the trade of the United States and Great Britain with the colony of Belize*—Continued.

EXPORTS—Continued.

Articles.		United States.	Great Britain.
AD VALOREM DUTY—Continued.			
Rosewood			$600
Rubber	Colony 8,508	$21,698	1,220
	Re-export 13,190		
Rum		725	5,865
Sarsaparilla	Colony 2,729	4,846	263
	Re-export 2,117		
Sugar (raw)		86,153	69,797
Sundries		139	665
Tobacco			11
Tortoise shell	Colony 8,308		12,458
	Re-export 4,150		
Turtle	Colony 1,476		2,213
	Re-export 737		
Zincote			1,158
Total		253,071	887,427

Total value of the imports and exports of the colony of British Honduras from and to each country for the year ending December 31, 1883.

Countries.	Total imports.	Exports.		
		Produce of colony.	Re-exports.	Total exports.
United Kingdom	$744,159	$851,587	$35,840	$887,427
British colonies	1,101	103		103
FOREIGN.				
United States	452,735	182,140	70,931	253,071
France	18,431			
Germany	18,568			
Russia		7,956		7,956
Spain	2,889	14,033	45	14,078
Mexico	19,797	9	67,750	67,759
Guatemala	15,371	3,411	64,512	67,923
Honduras	48,069	2,587	162,792	165,379
Nicaragua	23,460	2,980	47,672	50,652
St. Thomas	255			
Total	599,605	213,116	413,702	626,818
United Kingdom	744,159	851,587	35,840	887,427
British colonies	1,101	103		103
Foreign countries	599,605	213,116	413,702	626,818
Grand total	1,344,865	1,064,806	449,542	1,514,348

ALBERT E. MORLAN,
Consul.

UNITED STATES CONSULATE,
Belize, June 30, 1884.

PATENT LAW OF SWEDEN AND NORWAY.

REPORT BY CONSUL ELFWING, OF STOCKHOLM.

On the 21st of last month a new patent law was issued in this country, which law will take effect on the 1st of January, 1885. The principal feature of this law is that all patents will be granted for a period of fifteen years with yearly payments.

Patents granted previous to 1885 may, upon special application to the patent authorities, be prolonged fifteen years from the date of the expiration of the patent.

I send you two copies of the law and a translation of the same.

NERE A. ELFWING,
Consul.

UNITED STATES CONSULATE,
Stockholm, July 21, 1884.

THE SWEDISH-NORWEGIAN PATENT LAW.

We, Oscar, by the grace of God, King of Sweden, Norway, the Goths and Wendes, make known that we, after having submitted to the Diet a proposition of January 25, this year, as to a proposal relative to a new act about letters of patents attached to the same proposition, and the Diet having for its part sanctioned the act, inclusive, some minor amendments, we have found it expedient to graciously enact the following provisions under abrogation of our renewed regulations relative to letters of patents graciously enacted August 19, 1856.

SECTION 1.

Patents may, under the conditions here below prescribed, be granted on inventions of industrial productions, or on special methods of manufacture of such productions. Only inventors, Swedish or foreign, or the legal representatives of inventors, are entitled to obtain a patent.

SECTION 2.

Patent may not be granted on inventions, the working of which should be contrary to law or good morals. With regard to inventions of provisions or medicines, patent will not be granted on the commodity itself, only on the special methods for its manufacture.

SECTION 3.

An invention shall not be considered as new in case it has, prior to the filing of the application for patent with the patent authorities, been described in any published journal, or is so openly worked that any person, conversant with the subject, may, guided by the information thus gained, work the invention, or if the subject of the invention does not essentially differ from products or methods of manufacture which have before become known in such a way.

The publication of an invention in print by foreign patent authorities or the exhibition of the same in any international exhibition shall not be an obstacle for the granting of the patent; provided application to that effect is filed within six months from the date of publication or the day the exhibition commenced.

SECTION 4.

MOM. 1. Whoever will obtain a patent shall file a written application with the patent authorities or send it by post, the application to be accompanied by a duplicate description of the invention and duplicate drawings required to explain the description, and, when necessary, also models, samples, and such things.

The application shall contain the name, profession, and post address of the applicant, likewise the name of the invention.

The description must be given in so explicit and complete a manner that any person conversant with the subject may, thus guided, work the invention. The description must, also, state what the inventor considers is novel in the invention.

When the applicant is not residing in the country he must, also, deposit a power of attorney for an agent residing in the country, authorizing him to represent the inventor in every thing pertaining to the patent. Where patents are applied for several inventions, separate applications must be filed for each.

MOM. 2. Where the applicant names another person as inventor the applicant must produce papers authorizing him to represent the inventor.

MOM. 3. The applicant is also required to pay a fee amounting to 50 crowns, according to section 11.

SECTION 5.

Do the patent authorities find that the applicant has not fulfilled the provisions in section 4, Mom. 1, a written information to that purpose will be kept on hand for the applicant, or, if full post address is furnished, it will be sent to him by post. Should the applicant not fulfill the deficiency within the date fixed by the patent authorities the application is considered forfeited.

SECTION 6.

Should the subject of the invention be deemed to be of such a character that a patent may not be granted, or that the invention evidently is not new, or if the applicant, upon stating another person as the inventor, has not proved himself to be the legal representative of the inventor, or in case the applicant has failed to pay the fee, prescribed under section 4, Mom. 3, the patent authorities shall instantly reject the application.

Notice of such a decision together with the motives for rejection will be communicated to the inventor in accordance to section 5 in cases therein stated.

SECTION 7.

Are the several documents for application complete and there is no cause for instant rejection of the same as provided in section 6, the patent authorities shall give notice in the newspapers of the application, stating the main character thereof; likewise be it the duty of said authorities to keep the documents of application accessible to every person desiring to obtain knowledge of the same. And shall every one intending to contest the application for patent, under a period of two months from the date of the announcement of the application be permitted to file with the patent authorities such a written protest. At the end of that period the patent authorities will take up the case under consideration.

Is there nothing in the way to impede the granting of the application provided no contest described under section 18 has been filed, patent may be obtained and letters of patent issued. Be it the duty of the patent authorities to enter the grant in records, kept for that purpose, and make it public by notices in the newspapers, and have the description with required supplement, in a suitable way in its principal parts printed and published.

Is the application rejected, be what is under section 6 enacted in form for communicating the decision to the applicant.

SECTION 8.

In cases when an application for patent has been rejected in pursuance to §§ 6 and 7, and the applicant declares himself dissatisfied with this decision, he may appeal to the King before twelve o'clock upon the sixtieth day after the date of the resolution, or the privilege of appeal is null and void.

SECTION 9.

When several persons desire to obtain a patent upon the same or almost a similar invention the right of preference will be granted the inventor whose documents for application, prepared in conformity to law, were earliest filed with the patent authorities.

SECTION 10.

Letters of patent shall, except in the case stated here below, be issued for a period of fifteen years from the date of the day the application was filed. Any person desiring to obtain a supplementary patent on improvements upon inventions, before patented as his own, without applying for a new patent, may, under compliance with the conditions above stated, have this granted for the same period as the earlier patent is valid.

SECTION 11.

On each application for patent a fee amounting to 50 crowns is to be paid to the patent authorities as provided in section 4; should the application be rejected or forfeited half that sum will be returned to the applicant.

Upon each patent granted, with exception for supplementary patents, the patentee shall have to pay to the patent authorities an annual fee amounting for each patent year, the second, the third, the fourth and the fifth, 25 crowns a year; for each of the following five years, 50 crowns a year, and for each of the remaining five years, 75 crowns a year. The fee may be sent franco by post, and shall for each patent year be paid previous to the beginning of that year, under penalty that the fee for the year be increased with one-fifth. Should afterwards the payment of the increased fee be neglected shall, at the end of ninety days of the new patent year, the granted patent be considered forfeited. The patentee has not to pay, over and above the fees here directed, the expenses of publishing the patent or the publication of the description.

SECTION 12.

Is the patent assigned upon another person, notice of such proceeding together with the documents proving the assignment shall be presented to the patent authorities. Unless such notice is given shall, with regard to the patent, the patentee latest entered in the records be considered by the patent authorities as patentee.

SECTION 13.

In case a patentee is going to reside abroad or the patent has been assigned to a person who does not live within the country, be it the duty of the patentee to deposit with the patent authorities a power of attorney for a legal representative as provided under section 4, mom. 1. Should the agent of the patentee go away to reside abroad or his charge otherwise be discontinued, the patentee must deposit a power of attorney for another commissioner. Are these provisions not observed shall the judge of the court, upon being duly notified of the cause, appoint an agent for the patentee.

SECTION 14.

Are the fees paid and the proceedings completed as provided under sections 12 and 14, the patent authorities will have the payment registered in the records pursuant to section 7.

SECTION 15.

Be it the duty of the patentee within three years from the date the patent was granted to have the invention worked within the country to some essential extent, yet may it rest with the patent authorities to permit, at the time the patent is granted or afterwards, should it be requested, and with regard to the character and extent of the invention, to prolong the period up till four years; also to determine different proceedings through which the patentee shall be considered to have complied with the conditions of working the invention in cases of special exception.

Has the patentee, within the period prescribed, failed to comply with the conditions required for working the invention or the invention subsequently is abandoned and afterwards not taken up within a year, be the patent forfeited.

SECTION 16.

Claims in relation to patents shall not be valid against any person who at the time when the application for patent was filed had worked the patented invention or for such a work made more extensive preparations.

SECTION 17.

If the King considers it necessary that a patented invention shall be open to the free use of the public or appropriated on account of the state, be the patent no obstacle; the patentee, however, shall be entitled to a full compensation. Can no stipulation be agreed upon as to the amount of compensation, be it subjected to a special jury, appointed by the court, according to the provisions for expropriation of land or homestead required for public purposes.

SECTION 18.

Should a patent have been obtained contrary to the provisions under sections 1, 2, and 3, any person who considers his right violated through the granted patent, as well as the public prosecutor when the interest of the public demands such proceedings, may contest the validity of the patent.

SECTION 19.

Any and every one who pretends that a patentee through negligence in complying with the regulations, given in section 15, has forfeited the patent, may proceed at court.

SECTION 20.

The lawful court where to proceed at law in cases conformable to sections 17, 18, and 19, be the court of the city of Stockholm.

SECTION 21.

Has the validity of a patent been contested and the contest been sanctioned, the decision shall, through the court, be transmitted to the patent authorities.

SECTION 22.

Any person who, except in cases directed under sections 16 and 17, without permission by the patentee, is manufacturing in the country goods with an intent to sell, or for such manufacturing employs a method on which he knows another person to be the lawful patentee, or is selling in the country or for sale imports to the country goods here patented, or made according to methods of manufacturing which he knows to be here patented, and now appropriates without permission of the patentee, shall be liable to a fine varying from 20 to 3,000 crowns; be also all damages defrayed at his expense. No person but the patentee has a right to file such a contest.

Goods unlawfully manufactured or in the country unlawfully imported shall, when the complainant so demands, be delivered up to him against compensation for the value or against deduction therefor from the indemnity due the complainant. Implements, exclusively applicable for the unlawful manufacture may, when the complainant insists upon the process, be destroyed to prevent further mischief.

Persons accused of trespass conformable under this section who continue the offence even during the time of prosecution shall, when legally convicted, be called to account for each time separately when a warrant has been issued and served.

Money fined according to this section fall to the crown. In cases of destitution when the fine can not be fully paid down, the offence may be referable under the general penal code.

SECTION 23.

Should any person be accused of interfering in another person's right to a patent and in the course of proceedings the patent be found invalid, forfeited, or the claim unsound, the person under prosecution shall be acquitted.

SECTION 24.

When the validity of a patent has ceased either in consequence of the provisions prescribed in this act, or the patentee has notified the patent authorities of his intention to give up the patent, be it the duty of the patent authorities to cause the same to be canceled in the register, also to have notices as to the cancelation published in the newspapers.

SECTION 25.

With reference to patents granted in a foreign state, where patents granted in this country are treated with corresponding consideration, be it enacted that persons who within seven months from the date of the day the application was filed in the foreign state, apply for a patent on the same invention in this country, shall with regard to this application in relation to the earlier applications for patents, be considered as if the application was filed in this country at the same date as the application was filed in the foreign state.

SECTION 26.

More detailed provisions relating to the character of the documents required when an application is to be filed as to the entering of patents and also with regard to the publication of the description about the patents, will be provided by the King.

SECTION 27.

The regulations contained in this act are to take effect from the 1st day of January, 1885, and the applications for patent filed previous to that date are to proceed in accordance with the provisions hitherto observed; also, that any court where the

validity of a patent has been contested prior to said date may, notwithstanding the provisions under section 20, prosecute the contest.

Has a letter of patent been issued according to prior statutes and a patentee desires the same exchanged to another granted pursuant to this act, he may file an application to that end with the patent authorities, when the provisions stated in this act are to be observed relative to the application, the question as to the novelty of the invention to be decided with regard to the conditions at the period when the former patent was granted. Is a second patent granted, the period of its validity shall be considered of the same duration as that of the patent previously issued, and the annual fees to be paid according to the date of the first patent.

And these provisions are to be obediently and strictly observed by all and every one whom this act may concern. In confirmation hereof we have with our own hand signed this act and sanctioned the same with our royal seal.

The Royal Palace at Stockholm, May 16, 1884.

[L. S.] OSCAR.

E. VON KRUSENSTJERNA.

THE CANADIAN FISHERIES FOR 1883.

REPORT BY CONSUL-GENERAL FRYE, OF HALIFAX.

At the date of my report on the industries of Nova Scotia in February last, the annual report of the department of marine and fisheries, which includes the report of the inspector of Nova Scotia, had not been published. It has lately been issued.

By this report it appears that the total value of the Canadian fisheries for 1883 was $16,958,192, which is an increase of $134,100 over the value of the production of 1882, not including the catch in Manitoba and other portions of the northwest, estimated at about $54,000.

The following from the report shows the value of the principal kinds of fish, grouped for convenience:

Kinds of fish.	Value.	Kinds of fish.	Value.
Cod	$4,507,110 25	Trout	$408,995 12
Herring	2,263,326 66	Pollock	369,505 50
Lobster	1,949,253 71	Sardines	347,632 60
Salmon	1,518,126 61	Whitefish	268,222 56
Mackerel	1,329,485 46	Smelt	254,456 58
Haddock	609,966 50	Oysters	151,620 00
Hake	511,983 50	Alewives	150,498 00

The following comparative statement gives the production of the Nova Scotia fisheries for the years 1882 and 1883:

Kinds of fish.	1882.		1883.	
	Quantity.	Value.	Quantity.	Value.
Salmon ..... barrels..	700	$10,500 00	532	$9,576 00
Fresh, in ice ..... pounds..	418,055	62,708 25	423,308	84,661 60
Smoked ..... do....	65,910	9,866 50	19,920	3,984 00
Preserved ..... cans..	1,096	164 40	26,312	5,262 40
Codfish ..... cwt..	611,938	2,600,736 50	721,979	3,068,410 75
Cod tongues and sounds ..... barrels..	1,263	8,841 00	1,389	9,723 00
Pollock ..... cwt..	106,248	371,868 00	94,049	329,171 50
Hake ..... do...	112,693	394,425 50	246,966	864,391 50
Haddock ..... do ..	162,041	567,143 50		
Halibut ..... pounds..	752,332	45,139 86	959,650	57,579 00
Mackerel ..... barrels..	73,702	737,020 00	88,608	886,080 00
Preserved ..... cans..	42,600	6,390 00	114,500	17,175 00
Herring ..... barrels..	193,361	773,444 00	205,070	820,280 00
Smoked ..... boxes..	159,505	39,876 25	84,800	21,200 00
Frozen ..... number..	28,500,000	12,825 00	100,000	450 00

Kinds of fish.	1882.		1883.	
	Quantity.	Value.	Quantity.	Value.
Alewives ..... barrels..	21,056	$86,624 00	18,346	$73,384 00
Shad ..... do....	6,450	51,648 00	3,442	27,536 00
Bass, trout, and smelt ..... pounds..	415,435	24,926 10	488,505	29,310 30
Eels ..... barrels..	1,783	16,047 00	2,308	20,772 00
Oysters ..... do	1,745	5,235 00	1,343	4,029 00
Lobsters, preserved ..... cans..	4,965,477	744,821 55	4,870,339	730,550 85
Lobsters ..... tons..	840	33,600 00	39	1,560 00
In shell ..... M..	58,000	1,450 00	30,000	750 00
Live ..... do..	200,000	5,000 00	1,200,000	29,928 00
Fish roes ..... barrels..	.....	.....	8	32 00
Fish oils ..... gallons..	475,863	309,310 95	521,859	339,208 35
Fish guano ..... tons..	2,047	30,705 00	1,598	23,970 00
Fish used as bait ..... barrels..	.....	16,220 00	43,127	43,127 00
Fish used as manure ..... do....	16,192	8,096 00	23,693	11,846 50
Hake sounds ..... pounds..	60,820	36,992 00	59,290	59,290 00
Mixed fish in Digby and Yarmouth Counties..	.....	22,750 00	.....	18,395 00
Squid ..... barrels.	3,425	13,700 00	4,366	17,464 00
Amount sold in Halifax fish market	.....	30,000 00	.....	31,500 00
Home consumption of various counties	.....	49,549 00	.....	48,777 00
Albicores, clams, capelin, &c	.....	3,775 00	.....	.....
Total	.....	7,131,418 36	.....	7,689,374 75
Increase in 1883	.....	.....	.....	557,956 39

It appears that the increase of production over 1882 is mostly in the catch of mackerel and cod. The value of the former in 1882, including preserved or canned mackerel, was $743,410. In 1883 it was $903,255.

The production of codfish last year was 721,979 cwt., value $3,068,410, against 611,938 cwt., value $2,600,736, in 1882; an increase in quantity of 110,041 quintals, and in value of $467,674.

The value of fish taken in this province in 1883 was over 45 per cent. of the total Canadian production. The value of the production of New Brunswick was $3,185,674, a slight falling off from the value of 1882. That of the Province of Quebec, which includes a large part of the Gulf of Saint Lawrence, was $2,138,997, a gain of $162,481 over the value of the year before; and that of Prince Edward Island $1,272,467, a decrease of $583,219.

The fishing-bounty act of 1882 authorizes the payment of $150,000 per year to vessels under certain regulations. The distribution of this sum and the good prices paid for fish, as Inspector Rogers says, "have led to the addition of 143 schooners, chiefly bankers, to the fishing fleet [of Nova Scotia] during the year, giving employment to 1,526 additional men." He believes Nova Scotia fishermen will hereafter be less inclined to go to the United States to engage in American vessels, and that a large increase of the production may confidently be expected this year. "Never," he says, "in the history of this province was this branch of our industry so prosperous or those engaged in it so happy, comfortable, and contented; never did the future look so hopefully bright."

It is certain that the business is receiving more attention than formerly, and is gaining in importance.

WAKEFIELD G. FRYE,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Halifax, June 18, 1884.

SEAL FISHING IN JAPANESE WATERS.

REPORT BY MINISTER BINGHAM, OF TOKIO.

Herewith I beg leave to inclose for your information, and also for the information of the honorable Secretary of the Treasury, a copy of a note dated the 27th of June last, addressed to me by his excellency Inouye Kaoru, His Imperial Japanese Majesty's minister for foreign affairs, in relation to a notification by this Government, of date the 23d of May last (a translation copy of which is herewith), wherein the hunting and taking of seals and sea-otters in the territorial waters of Japan at or near the islands of Hokkaido is prohibited, and wherein it is provided that the seals and sea-otters so unlawfully taken shall be confiscated, or, if sold, their value shall be exacted; and further, that the offending parties shall be subject to the penalty prescribed in article 373 of the penal code of Japan; a translation of which article 373, and also of article 372, therein referred to, of the penal code of Japan, is herewith inclosed. You will please observe that his excellency states in his note that "no right has ever been granted by the Japanese Government to foreigners to hunt the said animals (seals and sea-otters) within the Japanese territorial waters," and that he requests me to bring this prohibition to the attention of our authorities, to the end that American citizens and American vessels may be required to respect said prohibition.

JNO. A. BINGHAM.
Minister.

UNITED STATES LEGATION,
Tokio, Japan, August 9, 1884.

[Inclosure No. 1.—Translation.]

No. 30.] FOREIGN OFFICE, *Tokio, June* 27, 1884.

SIR: I have the honor to call your excellency's attention to the prohibition of sea-otter and seal hunting at or near the islands of Hokkaido, promulgated by Imperial notification No. 16 of this year, a copy of which was forwarded to you a short time since.

I need not state that no right has ever been granted by the Japanese Government to foreigners for hunting the said animals within the Japanese territorial waters, but in order to secure the carrying out of the prohibition I beg leave to request that your excellency will be good enough to instruct the proper authorities to give due notice to vessels of your nationality proceeding towards the islands of Hokkaido so as not to commit any offense against the said prohibition.

I avail myself of this occasion to renew to your excellency the assurances of my highest consideration.

INOUYE KAORU,
His Imperial Japanese Majesty's Minister for Foreign Affairs.

His Excellency JOHN A. BINGHAM,
Envoy Extraordinary and Minister Plenipotentiary of the United States.

[Inclosure No. 2.]

IMPERIAL NOTIFICATION NO. 16.

Hereafter the hunting and taking of seals and sea-otters in Hokkaido is prohibited. The punishment of offenders shall be in accordance with article No. 373 of the penal

code, and the seals or sea-otters so taken shall be confiscated, or if they have been sold, their value shall be exacted. Persons who have received special permission from the minister for commerce and agriculture are not included in this prohibition.

By imperial decree.

PRINCE TARUHITO,
Junior Prime Minister.
SAIGO YURIMICHI,
Minister for Commerce and Agriculture.

MAY 23, 1884.

[Inclosure No. 3.]

Translation of articles No. 372 and 373 of the penal code of Japan.

ARTICLE No. 372. Whosoever shall have stolen from fields, crops, or other useful products of the earth shall be punished with imprisonment, with labor, for a period of from one month to one year.

ARTICLE No. 373. Those who shall have stolen from forests or quarries wood, bamboos, stones, minerals, or any other products, or who shall have stolen from rivers, pools, lakes, or seas, products maintained or improved by another person, shall be punished with the penalties inflicted by the preceding article.

WHEAT PRODUCT OF INDIA.

REPORT BY CONSUL-GENERAL LEONARD, OF CALCUTTA.

I have the honor to inclose herewith two copies of report on Indian wheat, being an official memorandum on the wheat harvest of 1884, containing statistics of the area under cultivation and the outturn. Although the figures cannot be absolutely relied upon, still they give an approximate idea of the quantity of wheat produced in India. The year mentioned in the report is the official year ended March 31, 1884.

J. A. LEONARD,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Calcutta, August 22, 1884.

INDIAN WHEAT.

(Official memorandum on the wheat harvest of 1884.)

In a resolution of 10th March last, the government of India, in the revenue and agricultural department, attempted to determine the area ordinarily placed under wheat in British India and in native states, and to estimate the outturn in an average year. The broad conclusions arrived at were that the total wheat area in India is about 26,000,000 acres, of which 20,000,000 acres are in British India and 6,000,000 in native states. The total yield, in a fairly good year, was put at 134,000,000 cwt., or 30,500,000 quarters, giving an average outturn of 9¼ bushels the acre. Since the conclusion of the year wheat-harvest reports have been received from the chief wheat-growing provinces as to the comparative area and outturn of the crop of 1884. The information may be thus summarized:

In the Punjab the harvest in the southeastern district, known as the Delhi and Hissar territory, has been very indifferent, and in some of these districts is described as a complete failure on unirrigated lands. But in the central and northern portion of the province both the acreage and yield have been above the average, and this has more than counterbalanced the deficiency in the southeast. On the whole the yield in 1884 may be estimated above the average. The average area is given in the government of India's resolution as 7,000,000 acres, and the average yield 9,300,000 quarters. The yield for 1884 may therefore be put at 10,000,000 quarters.

In the Northwestern Provinces and Oudh, which in the government of India's resolution is shown to come next to the Punjab in respect of wheat area, the area under wheat in 1884 appears to have been fully up to the average. The yield, however,

was somewhat short in many districts, owing to the deficiency of the autumn and winter rains. Estimating the area at 6,200,000 acres, and allowing for indifferent crops, the outturn for 1884 might be put at 7,500,000 quarters. The average yield per acre in these provinces is probably somewhat larger in ordinary years than in the Punjab.

In Bombay the yield per acre this year is reported to be generally above the average. The acreage appears to have been up to the average, except in Sind, where, however, the yield was average. The area ordinarily under wheat in the presidency is about 1,600,000 acres, and on this basis the probable yield this year is 2,000,000 quarters.

In the Central Provinces the harvest has been excellent, and the outturn is put at fully 15 per cent. above the average. The average also was in excess of the average. In the resolution referred to, the average area is put at 4,000,000 acres, but the yield per acre is ordinarily less than in Northern India. Taking into account the excellent character of the harvest and the breadth of land under crop, the outturn in 1884 should not be less than 5,000,000 quarters.

The four provinces from which reports have been received should thus yield a total of 24,500,000 quarters:

	Quarters.
Punjab	10,000,000
Northwest Provinces	7,500,000
Bombay	2,000,000
Central Provinces	5,000,000
	24,500,000

Reports have not been received from Bengal, the Berars, or the wheat-growing native states of Rajputana and Central India. But enough is known to anticipate that the total wheat outturn of India this year comes up to the average of 30,500,000 quarters. It is difficult, perhaps impossible, to estimate how much of this is available for export. In the calendar year 1882 the export was 15,000,000 cwt., and in 1883, 22,333,000, and this without any effect in raising prices. It may, therefore, be inferred that with a good rainy season following an average wheat crop, so as to secure the autumn harvest, at least one-fifth of the wheat harvest can be spared for export without materially enhancing prices.

As regards existing stocks, it was remarked in the government of India's resolution that in consequence of the low prices ruling in Europe the export for the quarter ending December last had greatly contracted, and that the continued cheapness of wheat in India indicated the existence of considerable stocks. Since January the wheat exports have been moderate, the total quantity exported for six months ending the 30th June being 5,960,000 cwt., against 10,990,000 cwt. in the corresponding months of 1883. The export in April was 637,000 cwt.; in May, 1,422,000; and in June, 1,857,000 cwt. The total export for May and June was 3,280,000 cwt., against 6,166,000 cwt. for those months in 1883. Wheat prices in the chief up-country markets are slightly lower than at the beginning of the year, and in the resolution referred to above it was shown that the prices ruling in January, 1884, were lower, in spite of the large export in 1883, than they were in 1882. The present monsoon rains, on which the rain-crops depend, are not unfavorable, so far, in most parts of India, the exceptions being parts of the presidencies of Bombay and Madras.

August 8, 1884.

THE GRAIN HARVEST OF EUROPE AND INDIA.

REPORT BY CONSUL MASON, OF MARSEILLES.

I.—The harvest in France.

The year 1884 will be remembered as one of generally prolific and bountiful harvests throughout the world. All the great bread-producing countries report not only large crops, but wheat, rye, and corn of excellent quality.

From the very complete circular recently issued by Mr. Barthelemy Estienne, of Marseilles, are condensed the following facts concerning the grain harvest of this year throughout France:

The yield of wheat has been very good in four departments of France and the large French province of Constantine, in Africa; good in fifty-

three departments of France and throughout the African-French province of Oran; fairly good in twenty-one departments and the province of Algiers; mediocre in four departments; and bad in five. These latter five are, however, those of Herault, Gard, Vaucluse, Var, and Bouches-du-Rhône, all in the immediate neighborhood of Marseilles, where at all times comparatively little wheat is grown. In a word, the French wheat crop has been heaviest and best in the districts where wheat is the principal staple, so that the partial failure of the crop in nine departments, which have but a small acreage of wheat, has not seriously affected the general profuse and excellent yield.

Oats have been found very good in five departments, good in thirty-four, as well as in Algiers and Oran, average in twenty-six departments and in Constantine; mediocre in fourteen, and bad in four.

Indian corn promises very well in sixteen departments and throughout Oran, good in nine, mediocre in seven departments, and bad in one (Dordogne). The corn of Algiers is also in bad condition, and the yield there will probably be small.

Rye has been excellent in three departments, good in thirty-five, average in eighteen, mediocre in seventeen, and bad in three including the province in Algiers.

Last year, with a home harvest considerably inferior to that of 1884, France imported grain and flour representing 36,894,000 bushels. This year her needs will be reduced to a point considerably below the above figure. The exact extent of this diminution is difficult to estimate for the reason that the present unusual cheapness of wheat and flour will stimulate more or less the consumption of better qualities than those ordinarily used by the peasants and laboring classes.

The "Semaphore," the principal commercial journal of Marseilles, presents in two recent numbers a review of the grain harvest of 1884 throughout Europe and India, which condenses so much interesting information into a small and convenient compass that a translation of the article is herewith presented as a basis upon which to estimate the probable export demand for American wheat during the current year.

II.—THE HARVEST IN OTHER EUROPEAN COUNTRIES AND IN INDIA.

(Translated from the Semaphore, September 4 and 5.)

The international grain market has just opened at Vienna, as in preceding years. Its most striking feature has been a general dullness in the transactions. Despite extremely low prices, consumers do not buy, for the very reason that, in their opinion, the decline has not yet reached its last stage. In the spring a short crop was anticipated nearly everywhere, and, on the contrary, as the harvest time approached, the weather continued improving, so that a good average crop was obtained in most parts of the world. The East Indies is the only great producing country where a deficiency was observed.

We shall begin the review of the crops with Austria-Hungary, and adopt the figure 100 as the basis of an average crop. The results are as follows:

Country.	Wheat.		Rye.		Barley.		Oats.	
	1884.	1883.	1884.	1883.	1884.	1883.	1884.	1883.
Hungary	104	100	98	86	103	92	106	79
Cisleithania	183	85	99	89	104	96	107	104

As it is seen, there is an increase in all the cereals.

In the transleithian part of the Empire wheat is grown on an area of 4,537,126 acres; 3,043,680 acres have yielded more than the average, but the yield of the remaining 1,493,446 acres has been below the average, and this circumstance derives more weight from the fact that the deficiency occurred in the localities where the best quality is raised. The surplus ranged from 2½ to 4 bushels per acre, while the deficiency varied from 7 to 10. Still, as the cultivated area in Hungary has been from 10 to 20 per cent. larger, the crop in that country has produced about 2,838,000 bushels more than in ordinary years.

In Cisleithania a surplus is announced in Upper Austria, Bohemia, a part of Moravia, and the eastern part of Galicia, while there is a deficiency in Lower Austria, in Styria, Carynthia, Silesia, and the western part of Galicia. The total surplus is hardly 1,500,000 bushels.

It is conceded that on the whole the quality is generally good in Austrian parts; indifferent in Hungary.

The rye crop, as compared with the average, is 2,130,000 bushels short; but the quality is superior in both parts of the Empire, and particularly so in Hungary.

The barley crop is satisfactory as to quantity, but defective as to quality, especially that of the barley used for cattle food. The total surplus amounts to 2,838,000 bushels.

The surplus of oats is estimated to be 5,675,600 bushels in Hungary, and 2,838,000 in Austria. The quality is generally very good.

The prospects of the Indian corn crop are indifferent in Hungary, but promising in Austria. Potatoes are not extensively grown in either country.

Admitting a normal consumption, we find, in the report presented to the Cereal Congress, that Austria-Hungary will be able to export the following quantities, compared with those of the two preceding years, expressed in millions of hundredweights:

Description.	1884.	1883.	1882.
Wheat and flour	6	9¾ to 10½	25½ to 27½
Rye	0	0	4 to 5
Barley and malt	7¾	6	9¾ to 10½
Oats	4	0	4 to 5

In Servia the southern provinces are having crops superior to those of the past ten years. The other parts of the country also evince great satisfaction. The wheat crop is highly promising everywhere except in the Cero Beka and Toplica districts. The same remarks apply to barley, rye, and oats. It is expected that the Indian corn crop will be above the average. This is the percentage: Wheat, 150; rye, 140; barley, 110.

Roumania has no ground for complaint. The percentage in Moldavia and Wallachia, is respectively, as follows: Wheat, 125 and 112; rye, 105 and 102; barley, 100 and 110. In Moldavia quantity has been obtained at the cost of quality, which is indifferent in nearly all regions.

News from Russia is generally excellent. A recapitulation of the information collected concerning the crop there will give the following table, on the basis of 100 as an average:

Governments.	Wheat.	Rye.	Barley.	Oats.
Ethivonia	80	65	85	90
Governments of the center	100	85	65	95
Podolia	100	80	70	110
Bessarabia (north)	125	130	130	150
Bessarabia (south)	25	.....	.....	.....
Cherson and Jekatherinoslaw:				
Winter wheat	100	90	95	105
Summer wheat	85	.....	.....	.....
Governments of the north	90	80	63	95
Poland	115	110	.....	.....
Kurland	100	110	85	85

In Central Europe the crop in Prussia furnishes the following figures, as compared to those of the two preceding years:

Years.	Wheat.	Rye.	Barley.	Oats.
1884	97	96	100	100
1883	84	85	94	79
1882	104	108	102	97

These figures are distributed as follows among the several provinces:

Provinces.	Wheat.	Rye.	Barley.	Oats.
Eastern Prussia	97	92	90	91
Western Prussia	97	94	97	95
Pomerania	97	95	97	94
Silesia	110	105	105	110–115
Westphalia	94	101	100	100
Hesse-n and Nassau	97	85	93	.....
Provinces on the Rhine	110	90	.....	.....

In Saxony we find 100 per cent. for colza, 110 for wheat, 95 for rye, 100 for barley, 115 for oats. The wheat which has already been sent to the market is of varied quality. The rye is light in weight and color, and somewhat soft. The barley is fine, both in color and weight. The oats gathered thus far are heavy and white.

In Bavaria we find the following quotations in relation to a good average:

Provinces.	Wheat.	Rye.	Barley.	Oats.
Franconia and Suabia	107	101	113	115
Palatinate and Watterau	90	65	120	85
Bavaria	105	100	105	85

The quality of wheat harvested in Suabia and Franconia is excellent. In the same provinces the barley is of middling quality, and the grain of oats is very fine. In Bavaria the quality of the wheat and rye is variable; the barley is everywhere in good condition for the preparation of malt, the grain being of a fine light-yellow tint. As to oats, the quality has given more satisfaction than the quantity. In the Palatinate provinces the grain of wheat is variable; the rye generally gives a poor sifting, while the barley is good.

In the Grand Duchy of Baden the yield, as compared to a good average crop, has been 90 per cent. for wheat, 60 per cent. for rye, 90 per cent. for spelt, 100 per cent. for oats, and 100 per cent. for barley.

In Denmark general satisfaction is evinced as to the wheat crop, even in the districts which have suffered from the drought. A good rye crop is also expected. For want of rain in May the barley crop will be reduced to 80 per cent. of the average. The prospects on oats are poor, no more than 60 per cent. being anticipated.

In Sweden and Norway good hopes are entertained of a good crop of wheat, rye, barley, and oats. A good quality is expected, and the quantity is estimated at from 100 to 105 per cent. of a good average.

Considerable satisfaction is more particularly felt in the United Kingdom (of Great Britain). The clemency of the winter season, which favored work in the fields, was a first source of gratification, and it is to be noticed that, according to official returns, the wheat-sown area is in notable advance over that of last year. This was, at the date of the 4th of June, the extent of cultivation of various products:

Year.	Wheat.	Barley.	Oats.	Potatoes.	Hops.
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*
1882	3,003,960	2,225,269	2,833,865	541,064	65,619
1883	2,613,162	2,291,991	2,975,381	543,455	68,016
1884	2,676,477	2,159,485	2,892,576	502,344	69,258

There is then an augmentation of 2 per cent. on wheat and of 3.5 per cent. on potatoes, while the diminution amounts to 5.9 per cent. on barley and 2.8 per cent. on oats, when the year is compared with 1883. But if the year 1882 is taken as a basis of comparison, the decrease is of 10.9 per cent. for wheat and 4.2 per cent. for barley; but the difference is compensated by an increase of 2 per cent. for oats and 3.9 per cent. for potatoes. But, apart from this compensation, the decrease is satisfactorily explained by the fact, established by careful statistics, that the soil, which for two years past has not been cultivated, was mostly turned into pasture ground. The official returns do not record the area of such pastures. It is to be regretted, but the census of the cattle raised in the country shows that the British have adopted the safe course. This will be illustrated by the production in the years 1882, 1883, and 1884.

Year.	Neat cattle.	Sheep.	Lambs.	Hogs.
1882	5,807,491	15,573,884	8,745,884	2,510,402
1883	5,962,779	15,948,667	9,119,604	2,617,757
1884	6,241,127	16,371,280	9,685,937	2,582,323

But, considering the crop in itself, it must again be stated that the spring and early part of summer have been almost constantly favorable, rain and fine weather alternating, so to speak, at the farmer's wish. During the ripening period a beneficent heat considerably improved the quality of the grain.

The following table will give the percentage of the product:

Year.	Wheat.	Barley.	Oats.	Potatoes.	Horse beans.	Peas.	Beets.	Hay.	Clover.
1881	90.0	110.0	80.0	98.0	.....	.....	80.0	65.0	.....
1882	92.2	95.4	105.1	96.4	103.1	101.6	107.1	112.6	118.4
1883	91.6	94.0	106.6	120.6	98.7	107.8	102.4	96.4	106.4
1884	112.2	98.1	94.3	108.4	88.2	91.4	78.8	79.1	82.4

It is estimated that the wheat crop of 1884 will amount to 11,000,000 quarters, so that the United Kingdom will only require from abroad a quantity of 13,000,000 quarters. These requirements have not been reduced to such a figure for a number of years past.

In the Netherlands more wheat had been sown than last year, but the crop is below the average in quantity, while the weight of the grain is satisfactory. The yield in rye, which was sown in the same proportion as last year, is ordinary in quality, superior in quantity. A good average of barley, which was not more extensively cultivated, has been obtained in all the provinces; in Holland the yield is considerable. The oats are of good quality everywhere except in Guilderland. Colza, widely cultivated, has produced more than the average; the quality is good.

In Switzerland wheat, as it stands, has a good appearance; a crop of abundant and ordinary grain is expected; percentage, 80. The yield of rye, which suffered while in blossom will probably be no more than 60 per cent., but the yield of barley must reach 90 and that of oats 80. Potatoes will be abundant.

In Italy the following percentage is furnished by the several regions:

Region.	Wheat.	Rye.	Barley.	Oats.
South	78	.....	66	65
North	80	60	.....	60
East	100	.....	.....	80
Center	80	.....	.....	60

In Sicily the wheat crop is nearly the same as last year. The Indian corn will probably be plentiful, under the influence of the sufficient rains of the year.

In Egypt there will be an average crop of wheat, but, owing to the constant decline of the prices, many farmers have given up this branch of culture.

Over 5,207,363 bushels, say some 40 per cent. more than last year, will be disposable for exportation.

The value of the principal agricultural produce exported from Egypt in the last two years is herewith given, in Egyptian pounds:

Agricultural produce.	1883.	1884.	Percentage on the total exportation for 1883.
Cotton	7,466,000	7,386,000	60½
Cotton seed	1,697,000	1,161,000	13¾
Horse beans	903,000	557,000	7¼
Wheat	545,000	84,000	4½
Sugar	394,000	563,000	3¼

This table shows, concerning wheat and sugar, a heavy decline of the exportation. The chief cause of this decline lies in the present prices of this class of merchandise, under which Egypt cannot compete with other countries.

The wheat crop in the British Indies is estimated to be about 30,500,000 quarters. Last year it was 35,000,000.

If the autumn rains do not fail there will be at least one-fifth of this crop disposable for exportation. Shipments have been small since Jan-

nary, and enormous stocks are believed to exist. If the prices in Europe do not rise above their present rate, the Indies will send but little wheat.

These are, expressed in hundredweights, the exports of wheat during the first half year:

From—	1884.	1883.	1882.
Calcutta	1,358,267	3,543,300	1,968,500
Bombay	3,070,860	4,468,500	5,728,350
Kurrachee	1,279,525	1,614,170	826,770

The natives do not sell below a certain price, say about 2.8 rupees per maund (81 to 88 pounds), and prefer keeping the grain in their cellars. This habit takes its origin from the conservative character of the people, and, at the same time, illustrates the dread prompted by previous critical famines.

The following is extracted from the report of a Belgian consul:

Wheat is now raised, more or less, over the whole wide expanse of the Indian Peninsula, but particularly in the Punjab and the Northwestern Provinces, Scinde and Berar. Bombay and Calcutta are the principal shipping ports, while Delhi may be considered as the most interior, and, at the same time, most important, center of production.

The white wheat of Delhi is of good quality and in high favor in all European markets. In the second week of January it was quoted at 38 shillings 3 pence per quarter of 492 pounds, delivered free from the ship, in any port of the Continent between Bordeaux and Hamburg, at the purchaser's option—Antwerp, for instance.

These rates, which, of course, only apply to full cargoes, show that the first cost at Delhi is not more than 13.50 francs per 100 kilograms, say $1.33 per hundredweight as follows:

	Francs.	Francs.
Say for 100 kilograms delivered free in Antwerp, at the rate of 38 shillings 3 pence per quarter		21.44
The distance by rail from Delhi to Calcutta of 984 miles costs for freight on 100 kilograms at the tariff rate of 61 rupees per bajor mund	3.44	
Shipping charges in Calcutta, at the rate of 1 rupee per ton	0.20	
Freight from Calcutta to Antwerp, at 32 shillings per ton	4.00	
Insurance, 1½ per cent. on 20 francs (freight being deducted)	0.30	
		7.94
Cost at Delhi of 100 kilograms		13.50

These figures have the advantage to show the stage reached in the struggle between the European farmer and his competitor in the extreme east. It is noteworthy that it is no farther back than ten years since Indian wheat first appeared in our markets. Every new mile of railway built in the East Indies will open new districts to the wheat culture, will increase the exportable surplus, and bear upon the prices of wheat in Europe.

The Indies have over us a double advantage—a fertile soil and extremely cheap labor. The first is placed beyond human control, but it is reasonable to assert that the cost of transportation, which, as above stated, amounts to some 8 francs per 100 kilograms, offers quite a compensation. The struggle then lies entirely in the labor question.

Mechanical power, which reigns supreme in industrial pursuits, makes but slow, weary, and inadequate progress in agriculture. The purchase of a whole outfit (of machinery) is too much of a burden, and the

farmer who could only use the machinery for one or two days in the year cannot think of submitting to it.

We may add that the Indian government is using its best efforts toward increasing the facilities of communication between the interior and the coast. As soon as the new railroads which it has decided to build are completed the East Indies will be able to compete with better success on the European markets with the United States and the other wheat-exporting countries.

Considering the question in its general aspect, we find (and this will be the conclusion of this review) that the harvest of 1884 has been plentiful, not only in America, like last year's, but also in Europe, as the reader of the foregoing report could see. The situation is nearly the same as that of 1882, with the difference that there existed then no large available surplus from the preceding crop, a circumstance which must now be taken into serious consideration as a consequence of the remarkable crop of 1882. We may, besides, observe that even the present crop is by 15 or 20 per cent. inferior to that of 1882.

Europe (and this should be kept in mind) will stand in less need than last year for foreign produce. What, then, could be more natural than the decline in the prices, as reported by the *Neue Freie Presse*, at the time of the international grain market?

The present debasement is believed to have been created by speculation. It may be so, and even then in a trifling measure; but, at all events, there is no probability that the prices of cereals will rise to the rates of two years ago.

FRANK H. MASON,
Consul.

UNITED STATES CONSULATE,
Marseilles, September 10, 1884.

TRADE AND COMMERCE OF THE AZORES.

REPORT BY CONSUL DABNEY, OF FAYAL.

In transmitting the commercial tabular reports for the calendar year of 1883, I have, taking into consideration the smallness of the market, but little of interest to notice.

The imports at Fayal are less by $26,693.92 than they were during the year 1882, caused mainly by a diminution in cottons of $5,699.56; in wood of $8,545.08, and in metals of $10,156.33, but the causes of this decrease are simply accidental, and not through any decline in trade.

The exports are also less to the amount of $32,925.03, accounted for by the great falling off in the demand for straw goods, and by the want of success of the shore whale-fisheries.

It will be seen that the value of the imported cotton goods from the United States is almost identical with that of 1882, viz, $18,248.57, although the decrease in the whole quantity imported from all countries is nearly $6,000, as above declared.

The state of the islands of this group is generally satisfactory. Large grain crops in the past year brought down the previously high prices, and the present year bids fair to be one of plenty.

Emigration to the United States is on the increase, but to other countries it has been sensibly diminishing.

S. W. DABNEY,
Consul.

UNITED STATES CONSULATE,
Fayal, Azores, May 17, 1884.

Statement showing the imports at Fayal for the year ending December 31, 1883.

Article.	Quantity.	Value.	Amount of duties.	Whence imported.
	Pounds.			
Animal products	8,054	$1,176 85	$289 19	United States, Germany, France, &c.
Fisheries	32,515	1,685 86	542 75	United States and British North America.
Woolen and furs	6,956	7,210 42	3,315 12	England, France, and Germany.
Silk	390	1,960 88	784 93	England and France.
Cottons	128,750	30,304 02	12,025 06	England, France, and United States.
Linen	13,582	1,753 80	258 66	England and France.
Wood	.....	11,624 56	1,792 21	United States, British America, &c.
Flour (including all kinds cereals).	19,160,090	30,779 35	2,025 17	United States and England.
Colonial goods	221,178	13,964 35	11,987 48	United States, England, France, Brazil.
Vegetable materials	41,663	724 47	136 65	United States, England, and France.
Metals	174,953	10,936 30	926 59	United States, England, France, and Germany.
Minerals	12,248,769	21,389 47	4,930 72	United States and England.
Liquors	.....	670 65	560 65	United States, England, France, Germany, and Holland.
Glass, &c	20,814	1,597 18	905 48	United States, England, France, and Germany.
Paper and its application	2,075	281 96	57 83	Do.
Sundries	.....	33,985 44	3,439 12	United States, England, France, Germany, and Holland.
Total	.....	170,345 56	43,927 61	

Statement showing the exports from Fayal for the year ending December 31, 1883.

Articles.	Quantity.	Value, including costs and charges.
Animal products	1,848	$32 67
Fisheries	27,269	2,587 83
Cottons (embroideries)	548	1,012 46
Vegetable materials	188,782	159 87
Liquors	.....	1,884 16
Sundries (principally straw goods)	.....	6,108 86
Total	.....	11,785 85

The above does not include the following articles, which were exported to Lisbon and the other islands free of duty:

Articles.	Value.	Articles.	Value.
Butter and lard	$10,923 83	Straw goods	$1,809 46
Skins	1,230 17	Wine	443 59
Oxen	1,984 35	Wheat	1,506 09

Statement showing the navigation at the port of Fayal for the year ending December 31, 1883.

Flag.	From—	Entered.					
		Steamers.		Sailing vessels.		Total.	
		No.	Tons.	No.	Tons.	No.	Tons.
American	Azores			8	3,402	8	3,402
	Liverpool			1	1,445	1	1,445
	La Paz, Mexico			1	480	1	480
	United States			11	4,753	11	4,753
	Whaling			24	3,771	24	3,771
	New York	*1	3,000			1	3,000
Austrian	Mexico			1	256	1	256
Brazilian	Lapas			1	140	1	140
British	United States	22	30,382	7	1,441	29	32,023
	Saint Johns, N. B.			1	1,341	1	1,341
	Brazil	1	907	1	104	2	1,011
	do	*1	669			1	669
	Great Britain	6	9,601	1	155	7	9,756
	Montevideo	*1	455			1	455
	Iquique			2	1,946	2	1,946
	Spain			1	109	1	109
	West Indies	5	5,365			5	5,365
	Trapani			1	156	1	156
	Lisbon and Islands			4	820	4	820
	Antwerp	1	2,544			1	2,544
	Bermuda	*1	2,400			1	2,400
	Demerara	2	1,578			2	2,578
French	France	2	4,406			2	4,406
	West Indies	2	3,661			2	3,661
	France	*3	4,700			3	4,700
	Cadiz			1	87	1	87
	Saint Vincent	*1	1,100			1	1,100
	New Orleans	1	2,662			1	2,662
	Montevideo	*1	1,200			1	2,200
	Maracaibo			1	176	1	176
	Africa			1	417	1	417
German	Lisbon and Islands	1	1,860			1	1,860
	Hamburg	3	12,006			3	12,006
	Africa			1	148	1	148
	Liverpool			1	280	1	280
Italian	Philadelphia			1	470	1	470
Norwegian	Ambriz			1	602	1	602
	Maracaibo			1	72	1	72
Portuguese	Lisbon and Islands	35	36,960	9	1,543	44	38,503
	do	*1	1,500			1	1,500
	United States			4	812	4	812
	Glasgow	1	40			1	40
	Buenos Ayres			1	222	1	222
	Whaling			2	360	2	360
Spanish	Havana	1	2,204			1	2,204
	Liverpool	1	986			1	986
						183	155,885

* Men of war, 15,015 tons.

Statement showing the navigation at the port of Fayal, &c.—Continued.

Flag.	From—	Cleared.					
		Steamers.		Sailing vessels.		Total.	
		No.	Tons.	No.	Tons.	No.	Tons.
American	Azores			8	3,402	8	3,402
	Liverpool			1	1,445	1	1,445
	La Paz, Mexico			1	480	1	480
	United States			11	4,753	11	4,753
	Whaling			24	3,771	24	3,771
	New York	*1	3,000			1	3,000
Austrian	Mexico			1	256	1	256
Brazilian	Lagos			1	140	1	140
British	United States	22	30,582	7	1,441	29	32,023
	Saint Johns, N. B.			1	1,341	1	1,341
	Brazil	1	907	1	104	2	1,011
	do	*1	660			1	660
	Great Britain	6	9,601	1	155	7	9,756
	Montevideo	*1	455			1	455
	Iquique			2	1,946	2	1,946
	Spain			1	109	1	109
	West Indies	5	5,365			5	5,365
	Trapani			1	156	1	156
	Lisbon and Islands			4	820	4	820
	Antwerp	1	2,544			1	2,544
	Bermuda	*1	2,400			1	2,400
	Demerara	2	1,578			2	1,578
French	France	2	4,406			2	4,406
	West Indies	2	3,661			2	3,661
	France	*3	4,700			3	4,700
	Cadiz			1	87	1	87
	Saint Vincent	*1	1,100			1	1,100
	New Orleans	1	2,662			1	2,662
	Montevideo	*1	1,200			1	1,200
	Maracaibo			1	176	1	176
	Africa			1	417	1	417
German	Lisbon and Islands	1	1,860			1	1,860
	Hamburg	3	12,006			3	12,006
	Africa			1	148	1	148
	Liverpool			1	280	1	280
Italian	Philadelphia			1	470	1	470
Norwegian	Ambriz			1	602	1	602
	Maracaibo			1	72	1	72
Portuguese	Lisbon and Islands	35	36,960	9	1,543	44	38,503
	do	*1	1,500			1	1,500
	United States			4	812	4	812
	Glasgow						
	Buenos Ayres			1	222	1	222
	Whaling			2	360	2	360
Spanish	Havana	1	2,204			1	2,204
	Liverpool	1	966			1	966
						182	155,845

* Men of war, 15,015 tons.

Statement showing the imports and exports between Fayal and the United States for the year 1883.

Articles.	Imports.		Exports.	
	Amount.	Value.	Amount.	Value.
	Pounds.	*Dollars.*	*Pounds.*	*Dollars.*
Animal products	7,414	995 97	35	2 78
Fisheries	31,564	1,604 74	.....	.....
Woolen and furs	199	115 04	.....	.....
Cottons	88,551	18,248 57	548	1,002 43
Linen	3,773	366 23	.....	.....
Wood	.....	10,597 31	.....	.....
Flour (mostly cereals)	1,881,204	29,253 91	693	5 57
Colonial goods	8,739	920 87	.....	.....
Vegetable materials	26,050	151 87	3,288	158 26
Metals (includes coin)	12,760	4,684 96	.....	.....
Minerals	143,013	2,521 39	.....	.....
Glass, &c	3,199	404 57	.....	.....
Paper and its application	377	91 83	.....	.....
Sundries	.....	5,560 65	.....	6,038 50
Liquors	.....	.....	.....	1,871 13
		75,517 91		9,078 67

LIVE-STOCK AND LIVE-STOCK TRADE IN DENMARK.

REPORT BY CONSUL, RYDER OF COPENHAGEN.

I have herewith the honor to present a report on the husbanding of live stock and products in this kingdom during the past year. It may be said that the year 1883 opened with bright prospects for these agricultural industries.

DAIRY CATTLE AND THEIR PRODUCT.

Thanks to the rich grass supply during the fall of 1882, the cattle were brought into their winter stalls in remarkably good condition. There was at the same time an abundance of hay and straw as well as of roots, where these were cultivated. The prices of grain and other feeding stuffs were low, whilst the prices of beef, pork, and mutton, as well as butter, rated high. Unfortunately the herds in many districts were not sufficiently numerous for the existing supplies of fodder.

The year on the whole has fully borne out these favorable expectations, and the sale of live stock and their products has without question yielded a much larger revenue to the kingdom than any of the corresponding ones of previous years.

The relative difference in grain prices as compared with other produce, as also the inferior quality of the cereals, naturally led to the employment of a much larger amount of strong feeding stuffs than in ordinary years, and a much larger quantity of grain was used for feeding purposes. The abundant hay crop which was at the disposal of the farmers, as a matter of course, helped to a considerable saving of the stronger feeding stuffs, so that on the whole no greater amount of strong food may be said to have been consumed by the dairy herds than in foregoing years.

The value of hay as winter fodder is too often underestimated, as in a good hay season the cattle will always be found in better condition than when the want is felt in this article. The large butter export of 1883, of 119,000 casks, is surely due, not alone to the use of a larger

quantity of strong food, but in part to the good hay supply, as also as before mentioned to the fact of the cows in the fall having been brought to their stalls in such good condition.

That a much larger amount of strong feeding stuffs has been consumed in this year, must therefore, in a great measure, be attributed to the larger increase in fattening of swine and other descriptions of live stock.

Whilst the butter produce was unusually large during the winter months, it was still larger during those of the summer season, and it would seem desirable to direct the attention of dairy proprietors to the fact, that every pound of butter produced in winter is on the average of 20 per cent. more value than the summer product. It may, therefore, be said that in the greater part of the dairies it is not yet clearly understood how to arrange their production of this article according to the simple rule which holds good in the dealings of all other merchandise, namely, to produce most when the prices are highest. Some progress in this direction is undoubtedly to be observed in the past year, but much has yet to be done before these fundamental principles are more generally understood and carried out in the management of the dairy herds.

IMPORTS AND EXPORTS OF MEAT CATTLE.

The prices for fat and lean cattle rated very high throughout the year, and there was an unusually large export of lean cattle to England, while at the same time large imports of lean stock from Sweden for fattening purposes occurred. Altogether these imports from Sweden have been larger than in previous years.

The high prices demanded for lean stock in the fall of 1882 seemed scarcely favorable for fattening with profit, but the high meat prices, and other favorable circumstances, contributed to a large increase in fattening, even on the small peasant farms, with good returns to the farmers, thanks to the high prices which ruled in England, more especially in the winter months.

A certain uneasiness still exists among the agricultural community with regard to the stricter rules which have received the sanction of the British chambers for regulating the admittance of live stock into that kingdom.

It is true that these are solely directed against those lands which do not give sufficient security against the introduction of contagious diseases, and that it was distinctly stated that the Scandinavian countries and the British possessions in North America would not be affected by these resolutions.

So long as the present liberal government remains in office no great danger need probably be apprehended, but it is too patent to all concerned that a change of ministry, and the slightest suspicion of any appearance of foot and mouth or lung disease in any of the Danish herds, might at any time subject this important trade to be placed under similar ruinous restrictions.

The exports of live cattle in 1883 have been largely in excess of those of any former year. They amounted, namely, to 123,200 head against 99,700 in the previous year, and of 105,200 head in 1876–'77, which latter year stood highest in this respect to any of the foregoing ones. A large proportion of these exports consisted of lean stock or half-fattened animals.

It has been found more advantageous to send the young heifers, and also cows and oxen, in lean condition to England than to keep them at

home for fattening, the cost of the home fattening, owing to the inadequate supply of root materials, being so materially enhanced through the forced employment of higher-priced feeding stuffs.

SHEEP EXPORTS.

The exports of sheep have also increased during the past year, having reached 103,500 head against 96,100 in 1882. The prices for this meat have also ruled high and at fairly steady rates throughout the year. It must also be observed that the sheep show a marked improvement, and are of greater value than in former years through the introduction of the English breeds instead of the merinos and home breeds. At the same time it cannot be denied that much has yet to be done toward a still greater improvement in the breeds, as also in the direction of a more systematic plan of care and attention in the management of these flocks.

EXPORTS OF SWINE AND PORK.

The fattening of swine has been carried on upon an unusually large scale in the past year. The high prices which have been obtained for several years, combined with the extended dairy thrift, together with the low prices of cheese and cereals, have tended to the increase in this branch.

The exports of live swine amounted to 333,100 head during the year 1883, against 264,000 for the previous year. To this has to be added an export of 18,800,000 pounds of pork as against 10,900,000 pounds in 1882. Whilst the prices obtained for this article throughout the whole of the past year were highly remunerative, it has, unfortunately, to be remarked that the prospects for the present year for this description of live stock are far from promising.

Since the opening of the new year a sensible decline in prices has taken place, due in part to overproduction and in part to the general want of employment amongst the laboring classes abroad; and the best selling months of the season may now be said to have gone past under the pressure of these adverse influences.

The danger which in the spring of 1883 seemed to menace the swine export trade to Germany was fortunately avoided, but the commotion which it excited amongst the agricultural classes was the means of directing attention in several quarters to a restriction in their exports to Hamburg, by placing themselves in more direct communication with the markets of other countries; and, with this object in view, two large slaughter establishments were erected in the course of the year for the export of pork to Great Britain. This enterprise has been attended by very favorable results.

Some experimental shipments which were made of live swine to the ports of Rotterdam and Antwerp do not, however, appear to have met with similar success.

IMPORTS AND EXPORTS OF HORSES.

In contrast to the foregoing movement in other descriptions of live stock, the export of horses has again met with a marked decline in the past year, although the imports have been on a large scale. There were exported altogether 9,200 horses with an import of 6,724; so that the net export is reduced to the number of 2,476 head.

The yearly import of horses in former times was of about 2,000 per annum, but in 1880 the increase commenced with an import of 4,200; in 1881 with 5,500, and in 1882 with 6,900. These imports consist chiefly of foals and colts from Sweden and Germany, and the small breeds of horses from Russia and Iceland.

The steady increase of the population, especially in the towns, has created a greater home demand for this stock, and the small Russian horses are now used in many places where horses were not previously employed. This will in great part account for the somewhat peculiar position of the kingdom's horse trade, for notwithstanding the small exports the markets have been brisk and very good prices obtained throughout the year, due mainly to this increased demand in the home circles, so that horse-breeding may on the whole be viewed in a favorable light.

AGRICULTURAL SOCIETIES.

In conclusion it is pleasant to be able to record several patriotic movements which have been made in the course of the year by some of the agricultural societies with the view of promoting improvement in breeds, as well as of creating a commendable competition among the herd proprietors. Thus, for example, prizes have been offered by one society for the best show of complete cattle herds; for which 19 herds have already been entered for competition. Another Jutland society has been making purchases of good mares and stallions for the coming autumn, as also of bulls from herds of good repute, the services of which will be available to the neighboring herd owners at almost nominal rates.

A large number of union dairies have been established in the course of the year. In many parts of the kingdom where the milk could not easily be disposed of by small producers these have been found of great benefit. A steady income being by these means assured to many who previously felt the want of such outlet for their produce and with the constant yearly increase in the numbers of horned cattle, and until the small peasant proprietors have learned how to make a profitable use of their milk supplies, it is to be hoped that further extension of these union dairies may be made in other districts of the kingdom.

HENRY B. RYDER,
Consul.

UNITED STATES CONSULATE,
Copenhagen, June 7, 1884.

SALMON-TROUT FISHERIES OF DENMARK.

REPORT BY CONSUL RYDER, OF COPENHAGEN.

I have herewith the honor to transmit a report on the salmon-trout fisheries of this kingdom. Amongst the numerous species of salt and fresh water fish which are to be met with in these waters, the salmon-trout unquestionably occupies a prominent position. There is this peculiarity to be noticed in this genus of the fish tribes, namely, that although in its primordial state it is to be classed amongst the salt-water fish, nevertheless its dwelling places are to be found equally as well in brackish and fresh waters. Remarkable as it is for its beautiful exterior, its rapidity of motion, as also its great strength of tail—which, like to the salmon, enables it to make leaps of 10 to 12 feet above the surface of the

water—likewise for its lengthened sojourn in the bays and river mouths during its stages of growth, returning, as a rule, to the spot where it was hatched, it is not to be wondered at that the salmon-trout has become an object of special interest to the sporting equally as with the fishing community.

Salmon-trout, as is well-known, is a bastard of the salmon. The real salmon fishery is solely carried on in the Island of Bornholm, and it is only in exceptional cases that a large number of salmon follow in company with the salmon-trout, when these during the breeding season make for the bays and river mouths, and they are then caught at Frisenwold and Randers.

In proof that salmon are not dwellers in bays of brackish water and broader river mouths, they have never been found with eggs at the time of capture, whereas the salmon-trout every year seeks refuge in these places for the purpose of depositing its spawn. The real salmon in the breeding season travels northward along the Swedish, Finland, Norwegian, and Iceland coasts, and here not only the largest but the best conditioned salmon are taken. The trout, which, as before said, has much resemblance to the salmon, is one of the most prized of salt-water fish; it is unusually fleshy, and affords an excellent and nutritious food substance. It is frequently the case that the large-sized trout (from 16 to 30 pounds weight) are dried and smoked, and then subsequently passed off in trade under the name of salmon; the smaller ones, on the other hand, being disposed of in a fresh state, and are generally sold on the spot at prices varying from 18 to 30 cents per pound. When to this is added that salmon-trout generate prodigiously, an 18-pound trout often yielding from 12,000 to 14,000 eggs, its rapid growth, increasing each year by about a pound's weight, and in its travels taking refuge in the remotest rivers and rivulets, it can be understood that this fish should occupy its prominent position not only on account of the home markets, but also as constituting an article of export, there being a great demand for it especially from Germany.

Moreover, whilst a marked decline unfortunately has of late years been visible in all descriptions of fish supplies in these waters, this may be said to have fallen more especially to the lot of the salmon-trout fisheries.

In olden times, two hundred or three hundred years ago, when fishing was one of the chief sources of emolument to the population, fish was to be found in great abundance, and salmon-trout of 20 to 30 pounds weight could then be purchased at the small price of 3 to 4 cents apiece. The fishermen in those days were obliged to drive round to the provincial towns and into the interior of the country in order to dispose of their catches. Every small rivulet swarmed with salmon-trout, and from October until far into the month of December they could be taken from the banks of the river with nets or lines by the thousand. It is not even more than fifty or sixty years back when such large takes of salmon-trout were made at Ovegaards Mills near Mariager Bay that the fishermen were obliged to drive round to the peasants in the neighborhood in order to get rid of their produce; thus when it is seen that for centuries these fisheries were in a flourishing condition, and formed one of the principal resources of the kingdom, and that it was only when well advanced in the nineteenth century that they commenced to decline in a visible degree, the question has been raised of late where the causes are to be sought for that have led to this rapid falling off in the fish supplies, especially that of salmon-trout. These, perhaps, may be looked for in various directions.

Time brings changes. That long period when these fisheries were so flourishing has now been replaced by one when the inhabitants find employment in other occupations more suited to the age. The improved means of communication, thanks to steamers and railways, the larger amount of home consumption and also the steadily increasing demands for export, the absence of special laws and regulations for the protection of these fisheries against wanton waste and destruction, also the considerable profits which in later years have been realized from these sources, have no doubt been the means of inducing many individuals to take part in the fishing in the bays and river courses, until in time it has been reduced to a system of wanton destruction, inasmuch as in many places during spawning season trawling nets and other modes of capture are employed. Large and small, everything is welcome to the net. The consequences of this mode of procedure were soon plainly to be made evident.

Not only was there a great destruction of the young offspring, but the larger fish were taken before they had time to deposit their spawn, and thus year by year a gradual decline is to be noticed in the various fish supplies. In proof thereof, it may be mentioned that whilst at Ovegaards Mills, in 1860, there were taken 1,850 pounds of salmon trout, in 1873 there were but 836 pounds, and last year no more than 408 pounds. The same proportions are to be noticed in the Skjver River, where some thirty or forty years ago there were caught ten times as many salmon and salmon-trout as in these days.

Strange to say, the salmon-trout fisheries have this year given a very good result, and it is not improbable that the varying increased decline in these fishing grounds may be attributed to the outflow of the Skjver into the Bay of Ringkjobing, and this bay's inimate connection with the Western Ocean. There are probably no other spots in any part of the kingdom which offer such favorable prospects for the trout fisheries as the water-courses of the Skjver and Lönborg rivers, but here also the salmon trout during the spawning season finds itself impeded by hundreds of nets in its travels from the Western Ocean into the country's best rivers up the Ringkjobing Bay. Here, as in the other bays, shoals of the young fry are destroyed by coupling and trawling nets. When to this is added that in this richly supplied fish bay such quantities of both large and small fish are so frequently taken that they have to be sold by the cart-loads to the neighboring farmers to be placed upon their fields in the room of manure, and when it is also mentioned that in the Ringkjobing fish-markets young trout of from one-quarter to one-half pound in weight are frequently to be seen exposed for sale, it is not suprising that the yield of these fisheries should be continually on the decline. If such wasteful and destructive mode of fishing is continued, it can only be a question of time when the fisheries of the best bays and rivers in the kingdom will cease to exist.

The existing salmon parks which are to be found at Randers, Veile, Kobding, Sneum, and at ———, in Skjver River, are the means also of placing obstructions in the way of these fish in their journey.

Many are here doomed to yield their lives in these small pits; and as a rule these are the trout which if allowed unhindered to reach their breeding-ground would fill the several rivers and rivulets with millions of their offspring. The same as with all others of the fish tribes, the salmon-trout in its many miles of travels is likewise exposed to numerous dangers. Thousands are devoured by their enemies of the voracious species, and man, the most destructive enemy of all, equally contends towards the completing of their destruction. In order to pro-

mote a revival of the salmon-trout fisheries, some such regulations as the following are absolutely necessary and most practicable:

(1.) The salmon parks and all special inclosed spots should be abolished and taken over by the State against compensation.

(2.) In spawning season, from the 1st of October to the 15th of December, the trout fishing with nets, ground-tackle, or the like in the bays, rivers, and rivulets should be strictly prohibited.

(3.) The trout fishery to be subjected to and carried on in conformity with special rules and regulations.

Some such decisive measures are imperatively called for to prevent the utter ruin with which these fisheries are threatened; and when such enactments can be fairly carried out for a period of four or five years it may be hoped that the numerous rivers and water-courses throughout the kingdom may once more be filled with millions of this valuable fish.

That a couple of months of close season may occasion some loss to a certain number of the fishing classes will not be denied; but if utter ruin is to be prevented some offer will have to be submitted to in one direction or another.

HENRY B. RYDER,
Consul.

UNITED STATES CONSULATE,
Copenhagen, Denmark.

TOKIO FIRE BRIGADE.

REPORT BY CONSUL-GENERAL VAN BUREN, OF YOKOHAMA.

I beg to inclose herewith an article which appeared in the Nichi Nichi Shimbun, a leading Japanese newspaper published at the capital, and translated for the Japan Mail, from which I take it. It relates to the annual destruction by fires in Tokio and the proposed preventive measures.

One of the great curses of Japan, and perhaps the same might be said of every other country, is these terrible fires, occurring so frequently and doing such immense damage. Japan is peculiarly subject to these visitations, by reason of the combustible character of the erections and the carelessness of the people.

THOS. B. VAN BUREN,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Kanagawa, Japan, May 29, 1884.

THE NEW FIRE BRIGADE.

[Translated from the Nichi Nichi Shimbun.]

During this year's session of the Tokiyo Fu assembly, the Government submitted certain bills for discussion relating to the improvement of the method of extinguishing fires, and the expenses incurred in adopting the improved system. These bills were passed with alterations of only minor importance, to the unbounded gratification of every resident in the capital. Our readers are only too familiar with the fact that Tokiyo is annually the scene of immense conflagrations, and that the misery of the sufferers from these calamities is great. It is popularly said that, if the number of houses burnt every year be compared with the whole number of dwellings in

Tokiyo, it will be found that the capital is reduced to ashes once in every seven years. Though this may be somewhat exaggerated, it proves, at least, the immense destruction by fire that annually occurs in Tokiyo. According to the Government returns, the number of fires in the capital since the establishment of the police bureau in 1874 up to the end of 1883 amounted to 3,224. Out of these, 2,645 were speedily extinguished; 257 resulted in the destruction of the houses in which they originated, and 322 spread to other houses. The number of houses burnt to the ground was 67,185, covering an area of 674,677 tsubo.* Granting that the average value of one tsubo is 28.91 yen, the actual loss by fire amounts to 18,507,150.44 yen. Besides this, 115 lives were lost. And so a simple calculation will show that annually 6,700 houses are destroyed, worth upwards of 1,950,000 yen. This is, indeed, a most serious matter.

It is true that the police bureau has done all in its power to suppress conflagrations, and that the fire brigade as well as all the members of the police have readily risked their lives in combatting the flames; the public has ever acknowledged their untiring exertions, but the capital is, nevertheless, constantly exposed to the risk of great conflagrations. This can only be ascribed to the want of the necessary fire-extinguishing apparatus and the defective system adopted. Our Government therefore proposes to dig new wells; to buy improved engines; to alter the organization of the fire brigades, and to pay for the services of the firemen; and has, finally, appropriated 50,000 yen toward defraying the necessary expenses. With these plans the Government sought the approval of the city assembly. It must, however, be remembered that 40,000 yen of the above mentioned sum are to be disbursed at once, the remaining 10,000 yens to be added year by year as necessity demands. And the members of our city assembly, who have acquired great skill and experience in such matters, did not hesitate to approve the proposals of the Government, although, as a rule, they are inclined to reduce the amount of proposed appropriations. In doing as they have done they have showed themselves worthy of the confidence of the residents. According to the new system adopted, it appears that the firemen are to be divided into forty instead of thirty brigades, each brigade to consist of fifty men instead of seventy as formerly: six stations, with branch stations, are to be formed in fifty-seven different localities. Each station will have twelve men; each branch station ten men; while twenty men will stay at the headquarters. Two of the force in each branch station must patrol the section under the immediate supervision of their station. Whenever a fire breaks out some of the men at the headquarters must proceed at once to the spot in a carriage, in order to render assistance and call together the men from other stations. According to these provisions at least one brigade may be expected to arrive at a fire within two minutes of its breaking out; while seven or eight other brigades can reach the spot in less than six minutes. During the winter season, 662 men out of a total of 2,000 will be in constant attendance. The former system of extinguishing fires, by means of a tobiguchi, a kind of small pick-ax, and weak pumps, which were chiefly instrumental in keeping the clothes of the firemen moist, is to be abolished. Two handy hoses, which can be managed by five or six men, are to be provided for each brigade; while two hundred and ten wells are to be dug in the three urban divisions of Nihonbashi, Kiyobashi, and Kanda. The firemen are to be properly clothed, and will receive pecuniary compensation in case they sustain any injury, and their families will receive the same in case of death. Good service will be rewarded in a similar manner.

We do not doubt for a moment that if the new system be carried ont, that fires in the capital will be more quickly extinguished than ever before. In the days of the Shogunate there was a special fire brigade in Tokiyo known as the *Ftunin Hikeshi* (Ten-men Brigade). This brigade received an allowance of one hundred and twelve bags of rice, and had stations in Iida-machi, Akasaka, Hanzo, Ichigaya, Surugadai, Tameike, Ochano-midzu, and Yayosugashi. Each station had several tens of firemen, who were commanded by thirty policemen and six head constables. Ten officers were further chosen from among the *Hatamoto*, who were to be present and assist in extinguishing conflagrations. Again, there was another brigade styled the *Daimiyo Hikeshi*. This brigade was supported by the daimiyo in various provinces whose income exceeded ten thousand koku of rice. The members of this brigade kept watch at the following places: the great gate of the castle, the Sakurada gate, the citadel of Ninomaru, the parks at Momijiyama and Fukiage, the rice godowns at Asakusa and Hongo, the timber-yards at Saruye, and the buildings of the Seidô school. The Zôjoji and Uyeno temples were placed under the care of the great dukes, while four earls were ordered to look after the fire brigade at the great gate of the castle, and another four were required to superintend the Sakurada brigade.

The stations of the firemen under the direction of these earls were established in several places, while they themselves kept men in their own mansions, in proportion to the amount of rice they received from their estates, and thus held themselves ready to render assistance whenever a fire broke out within a distance of 4 or 5 cho (about

*About 562 acres.

600 yards). Besides these brigades, there were forty-eight companies of firemen in the capital, who were maintained by local taxes levied upon the residents in the various streets. The total number of firemen in the metropolis was very large. But from the time of the restoration up to the present date, there have been only forty-eight brigades upon which we could rely. Although these men were sufficient in number to suppress the breaking out of serious conflagrations, especially with the help of the police and the gallant exertions of the firemen, it is not to be wondered at that the results were far from being satisfactory. Now that the Government has devised a new system, matters look decidedly brighter. Although the city assembly slightly diminished the amount of the appropriation originally suggested by the Government, as well as the number of wells to be dug, the new system has introduced considerable improvements, and we most sincerely trust that the result will be eminently satisfactory.

NOTES.

Crops of Italy.—Under date of August 5, 1884, Vice and Deputy Consul-General Wood, of Rome, transmits the following information concerning the crops of Italy, from information supplied by the minister of agriculture:

The wheat crop has been harvested except in the highlands; the average yield in Northern and Central Italy is said to be abundant, but short in the south, including Sicily and Sardinia.

Corn is looking unusually well and promises an abundant yield. The same is true of rice.

As for the fruit crop, including olives, oranges, and lemons, the excessively hot, dry weather in July is said to have damaged it somewhat; however, olives are reported to be in good condition now, especially in Tuscany, where also an abundant crop of chestnuts may be expected.

Grapes will be short in Central and Northern Italy owing to the ravages of vine disease, especially the *oidio* and *peronospora*. These diseases have been unusually prevalent this season, and are believed to have been aggravated by wet weather in the spring and early summer. A good crop of grapes is anticipated for South Italy and Sicily.

Sumac is now being cut in Sicily; a good crop is reported. Almonds are also being gathered, and the yield is said to be good.

No estimates of the quantities of any of the above-mentioned products have yet been given.

According to the statements of the exchequer, the foreign commerce of Italy in breadstuffs (exclusive of those in transit) for the half year ending June 30, 1884, compared with the same period of 1883, are as follows:

Articles.	Imports.		Exports.	
	First six months of 1884.	First six months of 1883.	First six months of 1884.	First six months of 1883.
Wheat .....tons*..	156,156	110,115	20,950	30,222
Indian corn .....do..	8,857	14,347	10,113	8,290
Barley .....do..	2,817	1,923	1,690	2,292
Oats .....do..	5,642	9,009	1,142	986
Other grain .....do..	2,989	4,318	8,269	5,573
Flour ....pounds..	8,008,134	5,740,220	4,742,180	4,603,140

*Tons of 2,000 pounds.

Steamers on the coast and rivers of Corea.—Under date of July 26, 1884 Consul-General Foote, of Seôul, writes that the Corean Government has this day granted a charter for lines of steamers on the coast and rivers of Corea to an American company, viz, Middleton & Co. By the terms of the charter the company has the transportation of the Government revenues, which are collected in kind, and undertake to carry the Government mails free of charge. The transportation of revenues will necessarily take the steamers to non-treaty ports, and by special permission they will carry private freights and passengers. It is proposed to place the first steamer on the river between Seôul and Jenchnan within the next thirty days.

Fruit in Trinidad de Cuba.—Consular Agent Palan reports as follows concerning fruit in his district, in answer to the Department circular of 4th December, 1883:

Raisins are not exported from this port, neither are vineyards cultivated in the district.

Oranges and lemons are only cultivated as a pastime and for domestic uses.

Olives are not cultivated.

Figs: We have them only for domestic uses, and of very poor class.

In short, we possess the fruits proper of this climate, but without any cultivation, and merely as a luxury.

Trade of Carupano, Venezuela.—Under date of June 30, 1884, Consular Agent Quesnel writes:

On my return from Caracas on 1st of May, I found here my commission and exequatur as consular agent in Carupano, and in compliance with my duty send to the Government my first quarterly report.

The town of Carupano is a small town of about 6,000 inhabitants, but with about the same number in the camp around, which is four leagues in length and two in breadth.

The influence of the Indian race, the Guayquiries, is noticed in many who are tall and good-looking fellows; energetic when they have to work in the camps.

Communications, easy to establish, are yet very scarce, and carriage by donkeys costs $2 a ton per league from the interior to sea shore. A good governor should be very popular here, where he could occupying himself with building railroads and highways. Then crops would become abundant, and lands rise in prices. Besides the crops, the railroads would have to carry large quantities of ores; for the country is evidently rich in minerals, and many are looking for the actual copper mines to run into gold and silver mines. The veins run 30° SE., which lead to the gold districts in Guayanas.

Near the copper mines is a strong sulphur mine, allowing cheap production of sulphuric acid, and Carupano, so near to Europe and the United States, seems an exceptional situation for developing one day or another into a very fine commercial city.

Carupano exports 30,000 bags, of 50 kilos each, of cocoa, and gives to Government $100,000 customs returns. The greater part of the importations come from France and England by the regular lines of steamers. Steamers bring four times in the year flour, rice, kerosene, timber, crackers, &c., from the United States. Generally the worst qualities are imported, and sold easily at very high rates.

International Agricultural Exhibition at Amsterdam.—Consul Eckstein, of Amsterdam, under date of August 28, reports as follows:

The exhibition was officially opened on the 26th instant in the presence of three of the ministers of the Government, who represented the King of the Netherlands on the occasion, as he was prevented from attending in person in consequence of the recent death of his son, Prince Alexander.

There were also present provincial authorities, the city authorities of Amsterdam, foreign commissioners, the members of the executive committee, and of the jury; representatives of the various agricultural associations, under whose auspices the exhibition is held; diplomatic and consular officers, and a large number of other invited guests, &c.

The exhibition occupied the entire and extensive grounds, and some of the buildings which last year were used for holding the International, Colonial, and Export Exposition.

The foreign countries largely participating in this exhibition are France, England, and Germany.

Less generally represented are Belgium, Austria, Hungary, Switzerland, Denmark, Sweden and Norway, the United States, Canada, &c.

The governments or countries which appointed commissioners are France, England, Belgium, Russia, Portugal, and Switzerland.

Of all foreign countries France is most extensively represented, there being exhibits from that country in the various divisions of the exhibition from more than two hundred exhibitors.

A French man-of-war has arrived here and is to stay during the time of the exhibition, and a number of the marines are on duty in the French sections.

The comparatively very small exhibit from the United States is likely to fail to attract much attention, and will not create a favorable impression—however, not from any want of merit of the exhibited articles, but simply because there is not a more general and extensive display.

The following is a list handed to me and said to contain all the names of American firms represented at the exhibition:

The Wheeler Melick Company, of Albany, N. Y., two thrashing machines and a treadle mill.

The Remington Agricultural Company, New York, a collection of farming implements, such as forks, shovels, hoes, garden rakes, and plows.

Dickey & Pease, of Racine, Wis., two fanning mills.

The Westinghouse Company, of Pittsburgh, Pa., an eight-horse-power steam engine.

The Johnston Harvester Company, Batavia, N. Y., a mower and reaper.

Silver & Deming, Salem, Ohio, pumps.

E. Walters & Co., New York, a Dodson granulating mill.

Walter A. Wood, Hoosick Falls, N. Y., a self-binder and reaper.

Adrian Platt & Co., Poughkeepsie, N. Y., a reaping machine.

The above completes the list of American exhibitors and their exhibits, so far as relates to their participation in the "grand division" of agricultural machinery, implements, tools, &c., is concerned.

In the grand division of the exhibition of "agricultural products" there is an interesting and attractive exhibit of cereals, field and garden products, minerals, &c., sent in by the Atchison, Topeka and Santa Fé and by several other Western railroad companies.

The great capacities of this country for making an extensive and attractive display of fine cattle have been freely exerted, and there are at this moment, I suppose, but few, if any, representative animals of the different breeds in the country left at their homes in any of the provinces.

There are in all about 900 head of cattle on the grounds, about three-fourths of which number consists of native stock.

The exhibition as a whole is generally spoken of and pronounced to be quite a success, giving great satisfaction to those who organized and promoted it.

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CONSULAR REPORTS

ON

COMMERCE, MANUFACTURES, ETC.

No. 46.—OCTOBER, 1884.

AMERICAN TRADE WITH STETTIN.

REPORT BY CONSUL KIEFER.

TARIFF AND TREATIES.

The German customs policy during the last few years has tried to protect the home production and industry by high duties and prohibition of imports (American bacon and meat), but this could not be fully kept up during the last year. In consequence of new commercial treaties with Italy and Spain, reductions of duties had to be granted by the German Government.

The proprietors of large industrial establishments wish that the duties on foreign goods should be raised as high as possible, but on the other hand they protest against enhancing the prices of articles of consumption for their laborers, and thereby come into collision with the endeavors of the landed proprietors, who ask for a further augmentation of the duties on grain and flour in order to make the prices of their products look up.

BEET-SUGAR PRODUCTION.

The considerable overproduction of beet-root sugar has depressed prices so much, that many manufacturers are in a precarious state if they do not succeed in buying the beet-roots at a cheaper price or making more favorable contracts with the farmers. It would be very desirable that prices soon looked up again, the cultivation of beet-roots as well as that of tobacco and hops, together with the increased breeding of cattle, having to compensate the farmers for the low prices of grain, which is supplied by America and Russia in such quantities as not to pay them any more in the eastern provinces of Prussia, where its cultivation formerly used to prevail.

STATE RAILWAYS.

The Berlin-Hamburg and the Silesian Railways have now become the property of the Prussian Government, and by this purchase the number of the State railways which the leading statesmen and the military

authorities have considered, necessary for the defense of the country, has now almost been completed. Stettin gains not inconsiderably by it, as the working of the Berlin-Stettin and the Breslau-Stettin, one of the Silesian railroads, as well as all the quays here, have been placed under one administration.

The goods which arrived here by the different railways amounted in 1883 to 455,060 tons of 1,000 kilograms; in 1882, to 440,331 tons of 1,000 kilograms; in 1881, to 427,083 tons of 1,000 kilograms; whilst the goods leaving here by rail weighed, in 1883, 398,615 tons of 1,000 kilograms; in 1882, 427,398 tons of 1,000 kilograms; in 1881, 427,337 tons of 1,000 kilograms.

AMERICAN PETROLEUM.

Petroleum was imported here mostly by sailing vessels carrying the Norwegian flag; as return freights they loaded here scrap-iron and empty barrels, &c., for New York, Philadelphia, and other American ports. From North America there arrived here with cargoes, in 1883, 21 steamers and 91 sailing vessels; in 1882, 6 steamers and 105 sailing vessels; and with cargoes left for that country, in 1883, 20 steamers and 37 sailing vessels; in 1882, 8 steamers and 24 sailing vessels. Most of the steamships were discharged and loaded in our outport, Swinemünde, all of the sailing vessels in Stettin. Petroleum was imported last year in 76 vessels; direct from America, 227,660 barrels; indirect, 25,080 barrels; by rail, 623 barrels; total, 253,363 barrels, against 276,976 barrels in 1882 and 270,518 barrels in 1881.

From St. Petersburg 11,600 barrels of Caucasian petroleum were imported, about the quality of which the reports are so contradictory that nothing can be said as yet whether it will be able to compete successfully with the American in any other country than Russia. The petroleum wells in Northern Germany yield but little oil, and, the working of them being expensive, to which Russia's competition has to be taken into consideration, promise but little lasting result. Following the tendency of America, the prices of petroleum ranged here during the first eight months of the preceding year in very narrow limits. The average price in January was 8.65 marks and in July 7.80 marks; in August prices rose to 8 marks, in September to 8.40 marks, and continued rising with very trifling fluctuations, and in December 9.10 marks was paid per 50 kilograms net in bond, barrels included, against cash payment without discount. Since July of last year the second petroleum storage-yard established below Stettin has been made use of. About seventeen ships can now discharge at this yard and the old one at a time, and the former slow dispatch of vessels, of which the masters so much complained, is now a thing of the past.

AMERICAN LARD.

The total import of American lard amounted in 1883 to 5,325 tons of 1,000 kilograms; in 1882, to 4,317 tons; in 1881, to 7,611 tons; and in 1880, to 10,836 tons.

At the beginning of the year the price of Fairbanks was only, owing to a dull market, 55 marks per fifty kilograms net in bond, cask included; it rose in February to 58 marks, and fluctuated up to May, when 58 marks were paid for Wilcox, 56.50 marks to 57.50 marks for Fairbanks and other brands, but dropped in July to 47.50 marks and 47 marks. Afterwards it fell to 40.50 marks and 39.50 marks, which reanimated the inclination to buy. Prices rising also in America, our quotations at the end of the year were 45 and 44 marks.

AMERICAN BACON.

Only 176 tons of bacon were imported, against 202 tons in 1882 and 1,229 tons in 1881. In the beginning of the year American bacon cost 70 marks per fifty kilograms, but went down to 64 marks up to July 1, at which date the prohibitive law came into operation.

AMERICAN RESIN.

The imports of American resin amounted from the sea-side in 1883 to 7,697 tons of 1,000 kilograms; in 1882, to 8,756 tons; and in 1881, to 5,104 tons. At the beginning of the year brown or good strained cost 5.25 to 5.50 marks; clear, 6.25 to 7 marks per fifty kilograms net, inclusive of casks and 10 per cent. tare, which prices remained steady, with only a few fluctuations, throughout the year.

AMERICAN MAIZE.

Of American maize 3,186 tons, at 1,000 kilograms, were imported, which were consumed in the interior. Average price, 13.50 marks.

Eight-one tons, at 1,000 kilograms, of maize starch were imported from America; price 35 to 40 marks per 100 kilograms.

AMERICAN CLOVER SEED.

Four hundred and thirty-eight tons of clover seed and timothy grass seed were imported from America direct.

At the beginning of the season the home crop was considered to be an excellent one, which, however, did not prove to be true; consequently prices of red clover seed, which went down to from 45 to 48 marks, rose later on to 60 and 66 marks for Silesian and French, and to 54 to 60 marks for Italian and American growth. American timothy grass seed cost in the beginning from 28 to 40 marks, according to quality, per 50 kilograms; later on, 22 to 24 marks.

EXPORTS FROM STETTIN TO THE UNITED STATES.

The export from Stettin to the United States was principally directed to the port of New York, consisting of the following:

Articles.	1883.	1882.
	Tons.	*Tons.*
Kainit	9,661	.....
Eggs	333	96
Soda, natron, potash	340	.....
Zinc oxide	15	.....
Potasses	100	.....
Drugs	18	.....
Scrap-iron	2,280	2,073
Malleable iron in bars in bond from Sweden	203	429
Cement	2,459	1,242
Hemp	124	102
Oakum	38	.....
Glass	14	.....
Empty petroleum barrels	428	855
Cherry juice	399	106
Dextrine and starch flour	48	.....
Grape sugar	74	.....
Beet-root sugar, of at least 88 per cent. polarization	1,008	2,065
Ties	535	.....
Smelting pots	60	.....
Crude zinc	600	416

The export of cement was double the quantity exported in 1882, and will no doubt still increase, as the Stettin manufacturers sell a first-class article, which gets more and more known. Small quantities of goods are exported by the regular traders between here and Hull, via Liverpool, to the United States, of which, however, the exact quantity cannot be ascertained. The rates of freight paid for sailing vessels to Charleston and Savannah were 8 to 8½ shillings per ton of kainit.

NAVIGATION AT STETTIN.

During the year there arrived in Stettin and the out-port, Swinemünde, with cargoes, 2,156 steamers and 1,320 sailing vessels; in ballast, 153 steamers and 196 sailing vessels; total, 2,309 steamers and 1,516 sailing vessels.

Total arrivals: 3,845 ships of 3,121,075 cubic meters measurement, against 3,543 ships of 2,563,522 cubic meters measurement in 1882 and 3,265 ships of 2,311,600 cubic meters measurement in 1881.

Of the first mentioned 3,825 ships, 21 steamers, and 91 sailing vessels arrived from the United States. Of these 24 were Russian, 296 Swedish, 190 Norwegian, 317 Danish, 47 Dutch, 1 Belgian, 682 English, 7 French, 1 Austrian, and 1,860 German ships.

On the 31st of December, 1883, 181 ships, with 43,265 register tons, hailed from Stettin, of which 68 were sailing vessels above 60 tons each, 2 coasting ships, 49 sea-going steamers, and 62 tugs and river steamers.

The total import by sea amounted to 953,193 tons, representing a value of 182,055,705 marks, and the total export to 462,932, tons at 1,000 kilograms; total value, 119,409,565 marks.

COMMERCE OF STETTIN BY COUNTRIES.

The following table gives the imports and exports of Stettin from and to the different countries in percentage, viz:

Countries.	Imports.	Exports.
	Per cent.	*Per cent.*
German ports	14.40	20.67
Denmark	2.82	9.20
Norway	4.60	2.09
Sweden	2.12	10.05
Russia	15.10	15.85
France	1.18	5.21
Belgium	0.88	1.84
Holland	1.70	2.78
England	45.20	25.07
Spain	0.14	1.08
Portugal	0.14	1.07
Italy	0.19	0.19
Roumania	0.87	.....
United States of America	10.66	4.51
Brazils	.....	0.09
Australia	.....	0.30
	100.00	100.00

HERMAN KIEFER,
Consul.

UNITED STATES CONSULATE,
Stettin, September 25, 1884.

LUMBER RESOURCES OF MEXICO.

REPORT BY CONSUL WINSLOW, OF GUERRERO.

Inquiries having been made by several persons engaged in the lumber trade in the United States as to the lumber resources of Mexico, I have the honor to make the following report, including only my own knowledge of this subject, which is limited; but if reports were made by other consuls, especially those stationed at the seaport towns, this subject would be put in a clearer light.

Amongst the different articles imported into Mexico none are of more importance than lumber. The trade and commercial relations between the Southern States of the United States and this country is growing in importance, more especially in regard to the lumber business and its kindred interests. Mexico will be well represented at the World's Fair to be held at New Orleans next December, and it is important that reports should be made and that specimens of the different kinds of wood growing in Mexico should be there presented, in order that our lumbermen should be thoroughly posted as to the lumber resources, lines of shipment, demands, facilities of manufacture, kinds of lumber needed, prices, and all other facts bearing on the subject.

LUMBER RESOURCES.

The amount of timber useful for manufacturing purposes in Northern and Central Mexico is very limited. The Sierra Madre range of mountains runs through Northern Mexico from northeast to southwest, nearly parallel to and at a distance varying from 150 to 250 miles from the Rio Grande River. The intervening country between the Rio Grande and the Sierra Madre is a grazing country and covered by mesquite trees, some ebony, nopal, different kinds of cactus, and a thick growth of chaparral (bushes), consisting of amargosa (a species of quassia), guiacum (lignum vitæ), chapote, chaparra prieta, lanthrisco, guisache, rhetama, coma, granjeno, uña de gato, palo de rosa (rosewood), barreta (boxwood), all having thorns; some aromatic herbs, some officinal and others not. Along the banks of the Rio Grande and its tributaries, the San Juan, the Alamo, and the Salado, and the Conchos, which latter empties into the Gulf of Mexico, there are numbers of sabine trees (*Juniperus sabina*), willows, ash, cottonwoods, and elms.

The mesquite, although it is a very hard wood, and capable of taking a fine polish, is not suitable for general manufacturing purposes, as the trunk and branches are very crooked, and a straight piece of over two yards long seldom occurs. It is used, however, for making doors, door-frames, for railroad ties, and for the heavy beams placed over the doors, to support the stone walls, and for a number of other articles, for which long lumber is not required. Its hardness, color, susceptibility of taking a fine polish recommend it as useful for veneering, for making clocks, sewing-machines, tool handles, and some articles of furniture. Its chief use here is for fire wood, for which purpose it is excellent. The mesquite tree produces a pod, which is eaten raw by the Mexicans, and of which they are very fond, especially the women and children, as it has a sweetish taste, and it is greedily devoured by

horses and cattle, and affords one of their chief means of subsistence when there is a scarcity of grass. It also produces a gum resembling gum arabic. There are some ebony trees, but they are scarce. This most valuable tree is used here for little else but fire-wood. It can be used for all the same purposes as the mesquite. I could obtain a sufficient quantity, if there is any demand for it in the States. The trunk seldom exceeds a foot in diameter and is generally straight. The branches are thorny, very thick-set, and numerous. It produces a large, green pod, called maguacate, containing six or eight seeds about the size of a bean, which are eaten when green, the pod having been first toasted over the fire, and, when ripe, are roasted and used as coffee.

The nopal, or prickly-pear (*Opuntia cochinillifera*) abounds in the whole territory of Mexico, Texas, New Mexico, Arizona, and California, and extends much farther north. It has flat oval leaves, some 6 inches long and nearly half an inch thick, covered by long, sharp thorns, and bears a fruit of a purple color resembling a pear, filled with numerous small seeds. This cactus grows from 3 to 6 feet high. Its fruit is eaten freely by cattle, and the leaves, after having been burnt in the fire to get rid of the thorns, are thrown by the cartmen, in place of fodder, to their oxen, by means of a long, sharp-pointed stick, especially when on the road where there is no grass. It also makes an excellent hedge, and once planted will last forever. There is another species of nopal, called nopal de castilla, which has no thorns, and which is cultivated for the sake of its fruit. This nopal has much larger leaves than the wild species, and grows to the height of 10 and 20 feet, and the fruit is much larger. Of this species there are a great many different kinds, as there are different kinds of apples, pears, or peaches, and each has its different name. They are of different colors—green, red, yellow, white, and purple. The fruit is delicious, and in the interior of Mexico forms one of the principal means of sustenance for the inhabitants. From the purple tuna a liquor is made, called coloncbe, and a sort of sweet cheese (*queso de tuna*). There is a small red tuna growing wild in the mountains near to Zacatecas, called cardona, which is highly prized on account of its fine flavor and digestible qualities, and several cart loads of which are sold daily in Zacatecas. Four dozen of them are given for six cents, which is not dear. Besides serving as food for men and beasts, its leaves form the food of the cochineal insect, so useful in the arts, and besides have their medicinal uses. Thus we see a humble, and what seems a useless, plant serving many excellent purposes.

Along the banks of the rivers and in moist places grow some sabine trees (*Juniperus sabina*), called in Texas cypress. These trees grow to a great height, and sometimes exceed two yards in diameter. It is very slow in its growth and may live several hundreds of years. I have seen sabine trees in Mexico which I have no doubt existed before its conquest by the Spaniards. It is an impressive sight to see one of these ancient trees towering far above its companions of the forest, spreading forth its huge limbs, hung as they generally are with Spanish moss. Its wood is of a red color, much harder than pine, with a close grain and capable of taking a fine polish. It is used for roofing the flat-topped Mexican houses, for making counters, shelving, &c., and for all the purposes for which long lumber is used. It is much superior to pine and will last much longer. The roof of the house in which I am now living was put on in the year 1778, and it is still sound. The joists and the roofing are of sabine wood. In fact, the wood-work of all the old houses

in Guerrero is of sabine, showing that it was formerly very plentiful. Its fine grain and rich natural color give it a value which places it in the front rank of ornamental and finishing woods; but this tree, which formerly raised its majestic form on both sides of the rivers of Northern Mexico, forming an impenetrable shade, is now scarce. Besides sabines there are on the rivers banks a few ashes, elms, and cottonwoods. The rest of the trees which I have before mentioned are nothing but bushes, so that the greater part of the country from the Rio Grande to the Sierra Madre is covered by chapparal (bushes), and is almost entirely devoid of timber suitable for manufacturing purposes. Pine, which is almost the only timber in demand, must be brought from the United States. Along the foot and on the sides of the Sierra Madre, and in the cañons or defiles which run through the mountains, grow great quantities of different species of oaks and some pecans, cottonwoods, and black walnuts. On the summits of the mountains, in almost inaccessible places, are found both yellow and white pine and piñon, which bears an edible nut. The trees that are cultivated here for the sake of their fruit are the orange, the lime, the lemon, the peach, the pecan, and aguacate; and of bushes, the pomegranate, the fig, and the guayaba.

Amongst the mountains of the Sierra Madre there are several small towns, where the apple, peach, pomegranate, and fig, and particularly the grape, are cultivated, and pecan and English walnut trees abound. In the lower part of the State of Tamaulipas, and in the State of Vera Cruz, on the Gulf of Mexico, is found the India-rubber tree and a variety of woods that are remarkable for their perfumes, as well as such valuable cabinet timbers as rosewood and mahogany. The same is true of the States bordering on the Pacific Ocean and on the Gulf of California. To the south of the Sierra Madre extends the central table land of Mexico, where the climate is cooler and the vegetation different from that of the low lands. For a distance of ninety miles—as far as Matehuata, in the State of San Luis Potosi—the country consists of a series of grassy plains, intersected by ranges of hills, and devoid of trees or bushes, except the gobernadora, a small aromatic shrub, and the bayonet palms, like lonely sentinels standing on the plain, their trunks covered by the dead foliage of former years still adhering, and above their green bayonet-like leaves protruding on all sides, and from their crown hangs an immense bunch composed of thousands of wax-like, white, bell-shaped flowers. This tree never seems to need water, as it grows in the driest places. It is useless as lumber or fire-wood, but the leaves are used for thatching roofs and as cords for tying on the roof-poles, and from the trunks gutters are made for conducting water, and from the trunk-fibers mattresses and saddle-cloths are made; and I should suppose these could be used for making paper. It also bears a date, which is eaten, the seeds of which are a powerful purge. On these plains there is but little animal life, except coyotes, hares, and prairie dogs. On the different ranges of hills there grow a few pines. Farther south there are considerable tracts of land covered by mesquite, and in the different mountain ranges, near the mineral regions of Catorce Piños and Zacatecas, there grows a good deal of pine timber. Almost the whole of the central table land, as far south as the city of Mexico, is of the same general character, almost devoid of timber useful for manufacturing purposes; but my own experience extends only for a distance of six hundred miles south of this place, as far as San Luis Potosi, Zacatecas, and Guadalajara, over all of which country I traveled a few years ago on horseback. At the different towns on the route, which are at great distances apart, there are springs of water, and other

kinds of trees than the foregoing are found, amongst which may be mentioned the tejocote, the ocote, the zapote, useful for railroad ties, on account of its durability, the quebredilla, the mulberry, the oak, the ash, the white poplar, the aguacate, and cottonwood; but, as a general rule, the greater part of the country is entirely devoid of timber except mesquite.

That Mexico intends to make an exhibition of her woods at New Orleans the following, taken from the Mexican Financier, published at the city of Mexico, will go to prove: "A collection of specimens of wood has been formed in Jicotitlan, State of Mexico, for exhibition at New Orleans, including the eucalyptus, mulberry, arbutus, oak, ash, ocote, tejocote, tepozan, white cedar, olive, capulin, and ilite."

A MARKET FOR AMERICAN LUMBER.

Lines of shipment to Northern Mexico would be either by steamer or sailing vessel to Matamoros, or Corpus Christi, and from the latter place, by Mexican National Railway, to Laredo; or if it were wished to send lumber to Camargo, Guerrero, or Mier, it would be necessary to unload it at the depot of Peña, half way to Laredo, on the Mexican National Railway, and from there send it by carts, a distance of sixty miles, to either of the before-mentioned places, or shipments could be made directly to Laredo, by International Railway; to the States further north, by sending by Texas and Pacific road to Eagle Pass, or by Atchison, Topeka and Santa Fé, and from thence by Central Mexican road into the interior of Mexico, or lumber could be shipped to the different ports on the Gulf of Mexico or on the Pacific coast. A proper agent should accompany each shipment, or agents could be appointed at each principal town to dispose of the lumber.

There is, and will be, a great demand for lumber, especially pine lumber, at those points reached by the Mexican Central, National, and International Railroads, as new towns are being built along these roads; and, besides, large quantities of lumber are used in the mines and in the construction of bridges. All this lumber must come from the United States, but then the demand is not so great as may be supposed, as the manner in which Mexican houses are built must be taken into consideration. The houses, with but few exceptions, are of one story, some twenty feet high, and from twelve to fifteen wide, with flat roofs; built of blocks of stone, with walls two feet thick. The floors are made of a concrete, consisting of lime, sand, small stones, and water mixed together. The ground having been leveled where the floor is to be made, this composition is spread evenly over the surface, is allowed to dry somewhat, and is then beaten down by heavy wooden pestles, and afterwards when nearly dry is smoothed down and polished by rubbing it over with round blue limestone. This requires considerable time and patience. The floor when thus made is smooth and glossy and hard, and will last twenty years. Wood floors are not suitable for this country, as they are liable to be eaten by insects, and afford a hiding-place for vermin. The walls are plastered inside and outside, and whitewashed. The roof is made by extending joists from one wall to another, so that the joists show inside, and on the principal joist is painted date of building and some religious or political motto. Over the joists is nailed a flooring of boards, so that the flooring of a Mexican house is really on the roof. Over the roof is spread a composition, similar to that of the floor, which is also beaten down, so that the house becomes perfectly water-tight and fire-proof, and will

easily last a hundred years. For example, the house in which I live was built in 1778. The roofing is of sabine and the doors of mesquite, and they are still sound. The houses consist generally of one room, some ten or twelve yards long, with sometimes another attached, as a kitchen, but the kitchen is most frequently made of adobe, and thatched with straw, and is in the back yard, retired from the house. The houses of the poorer class are made of adobe, or of sticks stuck in the ground and plastered with mud. The better class of houses have sometimes one or more rooms. Two doors generally open out from each room into the street; these are thick, heavy, and double, each door being one foot and a half wide and six feet and a half high. The yard is surrounded by a stone wall; and opening into this is a large door, some ten feet high and six to eight feet wide, for admitting carriages and animals. Sometimes this entrance is covered over (Zaguan), and the rooms are situated on both sides. The houses have no windows or fireplaces. The door frames and doors in all the older houses are made of mesquite, and are very thick and heavy, and over the doors are mesquite beams two yards and a half long, six inches thick, and two feet wide, to support the weight of the stone wall. These doors are secured by stout wrought-iron locks, of native manufacture, which never open or shut when you wish them to, and are very trying to those unaccustomed to their use. These doors being all made by hand are costly. Formerly when there was danger from Indians and revolutionists, these heavy doors were well enough; but now they are useless, and I am glad to state that pine doors brought from the United States are being used, and can be readily sold. I see also that many persons, in place of grass to cover their cottages, are using shingles. There is also some demand for Venetian blinds for doors.

WOOD MANUFACTURES.

There are none at all at present in this part of Mexico. There are no saw-mills, as far as I know, for manufacturing lumber. I have seen but two saw-mills in any part of the country over which I have traveled. One was in Miquihuana, in the southern part of Tamaulipas, and the other in the Sierra Madre, near to Rayones, State of Nuevo Leon; but both of these were afterwards abandoned. They were used for sawing pine timber into boards. The old-fashioned saw-pit and handsaw are universally used. There is no want of water-power, but the great difficulty is the distance and inaccessibility of the trees and the want of good roads. Perhaps when movable steam engines are introduced and roads are made, there may be a means of manufacturing this timber and bringing it to market; but for the present the Mexicans will have to look to the United States for their lumber, although it grows at their very doors. I know of no manufactory for furniture in the country. This is all made by hand, and is of the rudest description. I think ready-made furniture would sell here, but it must be of the cheapest kind, especially chairs, tables, and bedsteads.

KINDS OF LUMBER NEEDED.

The kinds of lumber needed are joists, two by twelve inches and sixteen and twenty feet long; pine and cypress boarding, one in thick and twelve inches wide; scantling, two inches thick and fourcnches wide; double doors, one and three-quarters of an inch thick, six feet half feet high, one foot and a half wide; Venetian blinds for doors; t is mes, oak, hickory, and ash lumber, three to four inches thick and ten t is drive feet long; materials for making carts; cart and carriage whe neaps;

ready-made furniture unarmed. In considering the question of lumber needed it must be remembered that there are no wooden houses in Mexico.

PRICES.

Pine boarding is worth here $70 to $90, and cypress $120 to $125 a thousand feet; siding lumber, none used; common shingles, $10 a thousand; double doors for houses, $15 to $20; large heavy doors for yards, $30 to $40. Unmanufactured lumber pays no duties.

CHARLES WINSLOW,
Vice-Consul.

UNITED STATES CONSULATE,
Guerrero, September 18, 1884.

SWISS WATCHES FOR THE AMERICAN MARKET.

REPORT BY CONSUL GIFFORD, OF BASLE.

The accompanying table of declared exports from this consular district during the fiscal year ending June 30, 1884, shows that there has been a net decrease of $740,612.72, or nearly 15 per cent. as compared with the preceding year. This decrease is chiefly attributable to the diminished exportation of watches and watch materials from the consular agency of Chaux de Fonds, which was $500,000 less than during the preceding year. That this branch of exportation will continue to decline in consequence of the rapid development of the corresponding industry in the United States, until it ceases altogether, cannot be assumed with entire confidence. As is well known, the Swiss have once recovered their lost ground in this direction. Having seen their American market almost escape them after the Centennial Exhibition of 1876, they were able, by the employment of the greatest energy, perseverance, and skill, to regain what they had lost, and even to increase their export of watches to a point never before reached. In 1882 the amount was $2,268,731.79 from this district alone.

This point may never be reached again, but the Swiss will not surrender their American market without a renewed struggle. They will in this be seconded by many circumstances which are favorable to their supremacy in this branch of production. The principal advantage is the low rate of wages which must be accepted by men occupying the sterile valleys of the Jura, where agriculture is impossible, and where they have been from their childhood devoted to this one calling. They must make watches, if not for good wages, then for poor wages.

It might be supposed that only the higher-priced merchandise and time-pieces of special construction and extraordinary precision could now find a sale in the United States, considering the immense numbers of low-priced articles produced by our manufacturers. But such is not the case. Very large shipments of so-called watches, invoiced as low as 10 francs each, and even lower, still go forward. A suspicion of gross undervaluation naturally arose under these circumstances; but a personal investigation and examination of the books and original accounts of manufacturers led to the conclusion that watches can be, and are, iced at these seemingly impossible prices.

The t declared exports also shows a decline in the exportation of chee of aniline colors to the United States during the fiscal

year. This decline and the comparatively small increase in the value of the silk ribbons exported are probably to be regarded rather as incidental variations than as indications of a permanent tendency.

GEORGE GIFFORD,
Consul.

UNITED STATES CONSULATE,
Basle, October 5, 1884.

Statement showing the declared exports from the consular district of Basle, Switzerland, including the consular agency of Chaux de Fonds, during the fiscal year ending June 30, 1884.

Kind of goods.	Third quarter 1883.	Fourth quarter 1883.	First quarter 1884.	Second quarter 1884.	Total for the four quarters.	Total for preceding fiscal year.
Silk ribbons	$618,142 84	$467,427 68	$755,256 41	$408,215 16	$2,249,042 09	$2,181,348 37
Silk tissues						37,638 08
Raw silk	37,655 26	98,672 25	18,723 70	24,564 91	179,616 12	76,672 93
Watches and materials	464,406 27	530,838 87	323,227 12	224,428 52	1,542,900 78	2,042,879 94
Aniline colors	45,595 04	27,505 29	25,229 65	26,935 37	125,265 35	141,589 35
Straw goods	19 25	1,580 44	4,364 56	1,864 72	7,828 97	25,507 84
Cheese		844 14	9,680 89	6,795 94	17,320 97	283,320 39
Miscellaneous	50,278 91	59,061 33	25,588 68	68,587 42	203,516 34	277,146 44
Total	1,216,097 57	1,185,930 00	1,162,071 01	761,392 04	4,325,490 62	5,066,103 34

Decrease during year ending June 30, 1884, $740,612.72.

COMMERCE OF WINDSOR, ONTARIO.

REPORT BY CONSUL EWERS.

In this report of the business of this consulate Table A shows the exports for the years ending June 30, 1883 and 1884, by different articles.

By this Table we find animals to be the principal export, amounting to $101,558.51, followed, respectively, by fish, $67,429.70; straw braid and hats, $54,828.34; elm and sycamore logs, $39,254.20; fire-wood, $36,013.57; charcoal, $33,923.50; beans, $22,299.18; stave and heading bolts, $21,849.55; cedar posts and telegraph poles, $16,922.76; lumber, $16,423.89; oak and cedar railroad ties, $14,983.98; hides and furs, $11,161.94; personal effects, $9,835; malt, $8,240.26; and numerous other articles, making the total domestic exports for the year ending June 30, 1884, $500,644.44. By comparing 1883 with 1884 we find the exports of animals increased from $68,301.18 to $101,558.51; fish from $39,613.57 to $67,429.70; straw braid and hats from $18,610.05 to $54,828.34; elm and sycamore logs from $35,162 to $39,254.20; fire-wood from $30,990.24 to $36,013.57; charcoal from $21,100.22 to $33,923.50; beans from $7,205.80 to $22,299.18; stave and heading bolts from $10,830.75 to $21,849.55; cedar posts and telegraph poles from $12,354.60 to $16,922.76; malt falls off $46,249.10; barley, $9,009.62; spirits, $4,658.07; railroad ties, $4,654.90; tan bark, $3,132. The exports for the year 1884 show an increase of about $92,556.89.

STRAW BRAID FOR THE UNITED STATES.

I take this opportunity of describing one of the principal exports, which may be of interest, the article of straw braid, which has grown to be a large industry in the vicinity of Windsor. It is made from either spring or fall wheat, cut when it is green; after it is dry the out-

side sheath is removed, only the inside and best parts being used for the braid, which brings from 1 to 2½ cents per yard. A great many people in Essex County live by growing the straw used in preparing braid for market. It is manufactured principally by French women, who formerly carried it in small lots over the river to Detroit and sold it there. It is said that they smuggled large quantities heretofore, but it is in a great measure stopped this year, and they sell most all of their braid in Windsor to dealers who export it to Detroit, where large amounts of it are manufactured into what is known as the celebrated "Mackinac hat." Large quantities of this braid are also sent to New York and Boston for manufacture in those cities, though many Eastern dealers prefer to order their hats made in Detroit, thinking they can further their interest by having them manufactured in the region so long famous for the braid which is made nowhere else in the country. The amount of braid exported during the year ending June 30, 1884, was over 1,700,000 yards, and at a valuation of $54,828.34, including a few hats.

CHARLES EWERS,
Consul.

UNITED STATES CONSULATE,
Windsor, Ontario, September 24, 1884.

A Comparative exports from Windsor for the years ending June 30, 1883 *and* 1884.

Articles.	1883.	1884.
Animals	$68,301 18	$101,558 52
Charcoal	21,100 22	33,923 50
Fire-wood	30,990 24	36,013 57
Malt	54,489 36	8,240 26
Elm and sycamore logs	35,162 00	39,254 20
Fish	39,613 57	67,429 70
Cedar posts and poles	12,354 60	16,923 76
Railroad ties	19,638 88	14,983 98
Lumber	18,141 02	16,423 89
Stave and heading bolts	10,830 75	21,849 55
Molding sand	3,510 50	266 70
Hides and furs	12,175 92	11,161 94
Eggs	4,436 28	4,092 45
Tan bark	7,282 00	2,150 00
Barley	10,427 42	1,417 80
Flour (wheat)	3,750 00	.....
Beans	7,205 80	22,299 18
Straw braid and hats	18,610 05	54,828 34
Tobacco	3,652 00	1,845 60
Stuffed birds	1,600 00	.....
Personal effects	6,107 87	9,835 00
Flower seeds	1,294 00	.....
Potatoes	314 10	57 00
Apples	320 00	1,186 75
Gilling nets	1,435 66	1,836 45
Limestone	624 00	.....
Butter	748 43	89 02
Old bones	232 00	.....
Oats	786 25	.....
Ice	850 00	.....
Clothing	259 03	880 90
Old iron	907 70	6,311 91
Hoop iron	64 96	.....
Wheel-spokes	104 50	380 00
Ivory blocks	924 75	.....
Staves	1,121 70	3,141 81
Plaster	141 75	.....
Peas	635 00	1,800 00
Spirits	5,839 41	1,181 34
Hay	.....	1,471 00
Analine dyes	.....	1,618 05
Crude petroleum	.....	7,342 08
Matches	.....	1,524 31
Miscellaneous	2,104 65	7,327 89
Total	408,087 55	500,644 44

FALSIFICATION OF AMERICAN PETROLEUM.

REPORT BY CONSULAR AGENT FOTTION, OF MYTILENE.

I have the honor to inclose herewith a copy of the sentence, under No. 27 and date 27th Ramazan, 1301, or July 7, 1884, of the criminal court *de première instance* at Mytilene, against Yiorgi Mimidi, for the falsification of American petroleum here. The criminal court condemn the said Mimidi, according to Article 241, to the judicial charges, and in penalty of 5 Turkish pounds. Now the American petroleum companies have the right, if they will, to prosecute, according to Article 241, the said Yiorgi Mimidi, Ottoman subject, and provisionally inhabitant of Mytilene, before the civil court, appointing an advocate for the purpose to take for their profit the filled 293 American cans which Yiorgi Mimidi filled with foreign petroleum.

Although the criminal court has had indulgence for the first time in the present occasion, the sentence against Mimidi will be useful in the future in our petroleum trade, because in this manner was recognized, according to the law of the Ottoman Empire, the high privilege, the protection of trade-marks, and consequently the protection of the American petroleum trade. I intend, if the Department approves, to lithograph the present sentence against Yiorgi Mimidi for the falsification of American petroleum, and send one copy to each consular officer in Turkey. The Turkish authorities of the different districts will not only respect the present sentence of the criminal court of Mytilene, if occasion should require, but they will endeavor to do more, and in this manner the protection of our petroleum trade in Turkey will be greatly facilitated.

M. M. FOTTION,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Mytilene, July 24, 1884.

RUSSIAN VS. AMERICAN WHEAT IN SWITZERLAND.

REPORT BY CONSUL-GENERAL CRAMER, OF BERNE.

Referring to my dispatch No. 67, of the 23d of August, concerning the danger of Russian wheat driving American wheat from the Swiss market, I have now the honor to further inform you that the rich harvests of the present season in Russia, as well as the masses of wheat stored in various parts of that country, especially in Odessa, and the reduction of the through freight tariff, leave little doubt that Russian wheat will supersede American wheat in Switzerland and South Germany.

The Russian wheat dealers strain every nerve to supply the markets of Central and Southwestern Europe with this article. They are supported in their endeavor by the low cost of transportation, both by railway and sea and river steamers; in consequence of which Russian wheat is offered at a very low price.

All these circumstances cause a constant increase in the export of wheat from Russia into Italy, South Germany, and Switzerland, via

Genoa, Marseilles, Antwerp, and Rotterdam; so that this country is now almost entirely supplied with Russian wheat.

The freight of wheat from Odessa to any one of these ports is from 25 to 40 cents per 100 kilograms, and from Antwerp up the Rhine to Mannheim 16 to 18 cents; while from Rotterdam it is as low as 10 cents per 100 kilograms.

Statistics show that the export of American wheat has decreased, while its production has been increased. There must, therefore, be a necessary fall in its price. What is to be done? In order to furnish an outlet for the surplusage, both its price and the cost of its transportation must be reduced.

Let American wheat exporters send a competent person to Europe, whose duty it shall be to carefully study the wheat markets of England, Germany, Switzerland, &c., as well as the question of transportation of wheat from the ports of Genoa, Havre, Marseilles, Antwerp, and Rotterdam to the wheat centers of the interior, and form commercial connections with such centers by offering a good quality of wheat, at at least the same price as Russian wheat can be purchased for. American wheat might be cheaply transported from New York, Philadelphia, and Baltimore to any of the above-mentioned ports, either in freight steamers or in sailing vessels, or in both; and by judicious management it may regain the command of the markets of England, South Germany, and Switzerland.

M. J. CRAMER,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berne, September 17, 1884.

AMERICAN VS. FRENCH FLOUR IN THE CANARIES.

REPORT BY CONSUL M'KAY, OF TENERIFFE.

Although my consular district has at all times produced more or less wheat, the local millers, through want of proper appliances, could never make a bright fine flour free from bran that the demand called for in the best qualities of bread.

French flour many years ago began to supply the need, and Marseilles millers have since found these islands one of their best customers.

A fortnightly line of steamers kept the market constantly supplied with a fresh article, under circumstances against which neither Spain nor the United States could compete.

The want of success with Spain consisted in the high rates, owing to the excessive tariff there at which the peninsular farmers met a ready sale for their grain. The United States flour, however, was practically excluded from the local demand by other causes, which I proceed to set forth.

This should be prefaced by the observation that all bread is eaten cold, and is universally supplied by the bakers, no one pretending to make bread in their kitchens. This threw the selection of the flour into the hands of bakers, and they looked up a quality that would admit as much water as possible to give weight, and which also admitted a good amount of yeast, which made the loaves, which are of two or three uniform sizes, appear larger, and thus more satisfactory to the public eye.

The bakers have pretended that American flour does not meet their wants in the above particulars, and although there has been some flour imported from time to time from New York, the amount has never reached one-fifth of the quantity received from France.

I have long been convinced, however, that the difficulty with American flour does not consist as much in the quality nor in the price as in the difficulty of keeping bakers regularly supplied with an article of an even quality, which advantages Marseilles has enjoyed, because of her periodical steamers, and because the millers there take pains to keep certain grades of flour always on hand.

The public have of late years looked suspiciously upon this French flour, and have favored the American article so far as their means allowed.

This has caused the bakers to look upon the kind last named with favor, and as Marseilles is now, owing to the cholera raging there, entirely shut out of this market, I hear of large quantities of flour expected from the United States, and have no doubt that the result will be a permanent increase in the consumption of our flour.

The want of constant periodical communication, however, will always work against the American article, and until a line of steamers is established we should not look for permanency in that trade.

From importations made during the last five years I calculate that if the French article from any cause could be replaced by American flour the consumption would amount to at least 2,000 pounds per month for this province, after allowing for a liberal consumption of the native article.

Besides flour, our exports under careful manipulation of parties acquainted with needs of the people here could no doubt be increased in leather, soup-pastes, soap, and various other articles of which France has enjoyed almost a complete monopoly.

I have but little doubt that if our products could once gain a footing, and constant, regular communication could be relied upon, we could hold our own against all comers.

H. B. McKAY,
Consul.

UNITED STATES CONSULATE,
Teneriffe, August 16, 1884.

FOREIGN COMMERCE OF BERMUDA.

REPORT BY CONSUL ALLEN.

I hereto annex Tables A, B, C, and D, showing the imports and exports from and to all countries, imports and exports from and to the United States, and the navigation of this colony for the year 1883.

These tables show a falling off of the total value of imports for the year, and to a more marked degree from the United States, being $100,000 less than any year since 1876. The cause of this large decrease I attribute to the low prices the planters received for their products, consequently to their inability to purchase.

A direct and regular line of steamers with England during a great part of the year, and the lower purchasing prices of many goods, no doubt helped to increase the deficiency.

Goods entered in bond, including large quantities from the United States, do not appear in these tables.

CHAS. M. ALLEN,
Consul.

UNITED STATES CONSULATE,
Bermuda, September 24, 1884.

A.—*Statement showing the imports at Bermuda for the year ending December* 31, 1883.

Articles.	Value.	Amount of duties.
From the United Kingdom.		
Building materials, 548 packages	$1,459 95	5 per cent. ad valorem.
Butter, 2 cwt. 3 quarters	73 00	Do.
Bread, 13 cwt. 2 quarters	379 59	Do.
Carriage, 1	588 87	Do.
Candles, 516 packages	1,703 28	Do.
Cutlery, 1 package	97 33	Do.
Clothing, 61 packages	7,358 43	Do.
Corks, 13 packages	968 40	Do.
Cotton goods, 486 packages	50,217 41	Do.
Coffee, 3 tons 11 cwt. 2 quarters 12 pounds	1,017 13	Do.
Cheese, 7 cwt. 18 pounds	146 00	Do.
Confectionery, 36 packages	500 10	Do.
Drugs, 98 packages	3,163 21	Do.
Dry goods, 352 packages	32,790 33	Do.
Earthenware, 97 packages	2,267 77	Do.
Furniture, 88 packages	1,508 66	Do.
Fruit, preserved, 241 packages	647 27	Do.
Fish, preserved, 42 packages	340 66	Do.
Government stores, 6,239 tons coal, 2,816 tons stores		Free.
Groceries, 264 packages	1,985 52	5 per cent. ad valorem.
Glassware, 262 packages	3,333 53	Do.
Hardware, 489 packages	6,784 07	Do.
Jewelry and plated ware, 26 packages	3,197 27	Do.
Leather manufactures, 161 packages	13,388 16	Do.
Machinery, 10 packages	345 53	Do.
Miscellaneous, 93 packages	1,975 80	Do.
Musical instruments, 17 packages	1,732 34	Do.
Oilmen's stores, 2,084 packages	19,835 86	Do.
Oils, paints, &c., 540 packages	2,637 54	Do.
Perfumery, 12 packages	618 07	Do.
Powder, 133 packages	345 53	Do.
Provisions, 144 packages	1,479 47	Do.
Potatoes, 23 packages	58 40	Do.
Rice, 67 tons 2 quarters	3,265 41	Do.
Silk goods, 2 packages	315 87	Do.
Ship chandlery, 7 packages	63 26	Do.
Straw goods, 31 packages	890 60	Do.
Soap and starch, 986 packages	2,681 33	Do.
Seeds, 6 cwt. 9 pounds	554 60	Do.
Stationery, 69 packages	2,817 70	Do.
Sugar, 3 tons 5 cwt. 24 pounds	428 27	Do.
Tea, 4 tons 12 cwt. 2 quarters 7 pounds	2,885 83	Do.
Tinware, 4 packages	19 46	Do.
Woolen goods, 129 packages	18,336 73	Do.
	195,603 74	$9,780 19
Alcohol, 191 gallons	155 73	185 90
Books, 28 packages	1,133 98	Free.
Brandy, 3,224 gallons	7,630 93	3,186 56
Cordials, 42 gallons	175 19	40 88
Cigars, 186,500	2,216 44	455 01
Coals, 1,316 tons	4,579 39	Free.
Gin, 2,460 gallons	1,756 80	2,394 32
Malt liquor, 3,523 hogsheads, 2,823 dozens	69,187 07	17,539 60
Plants, 1 package	34 07	Free.
Rum, 199 gallons	184 94	193 69
Tobacco, 5 cwt. 2 quarters 12 pounds	248 20	25 12
Wine, 572 packages	11,164 16	2,232 83
Whisky, 1,651 gallons	2,472 07	1,606 87
Total from the United Kingdom	296,542 66	37,641 97

A.—*Statement showing the imports at Bermuda, &c.*—Continued.

Articles.	Value.	Amount of duty.
From British North America.		
Butter, 2 tons, 16 cwt., 2 quarters, 12 pounds	$1,494 07	5 per cent. ad valorem.
Bricks, 22 M	141 13	Do.
Coffee, 7 cwt., 2 quarters	131 40	Do.
Cotton goods, 23 packages	2,715 40	Do.
Dry goods, 311 packages	5,403 18	Do.
Drugs, 10 packages	73 00	Do.
Fire-wood, 20 cords	63 00	Do.
Fish, preserved, 1,583 packages	8,507 13	Do.
Fruit, dried, 2 packages	24 33	Do.
Furniture, 463 packages	652 13	Do.
Groceries, 286 packages	14,225 30	Do.
Hay, 837 packages	739 73	Do.
Hardware, 211 packages	861 42	Do.
Horses, 37	3,119 42	Do.
Lumber	13,426 87	Do.
Leather manufactures, 108 packages	6,024 93	Do.
Matches, 151 packages	418 52	Do.
Miscellaneous, 17 packages	170 32	Do.
Oats, 11,772 bushels	4,467 45	Do.
Potatoes, 10,187 barrels	1,035 80	Do.
Plated ware, 3 packages	155 73	Do.
Powder, 17 packages	170 33	Do.
Rice, 1 ton, 16 cwt	121 66	Do.
Sheep, 59	209 26	Do.
Soap, 15 packages	68 13	Do.
Spars, 87	97 33	Do.
Stoneware, 12 packages	43 80	Do.
Stationery, 3 packages	82 73	Do.
Wagons and carriages, 17	1,430 80	Do.
	74,322 97	$3,716 15
Alcohol, 123 gallons	146 00	119 72
Brandy, 200 gallons	949 00	194 66
Cigars, 10,800	379 61	26 28
Coal, 355 tons	613 20	Free.
Fruit, fresh, 6 packages	34 07	Free.
Gin, 441 gallons	316 32	430 20
Malt liquors, 257 hogsheads, 38 dozen	5,104 96	1,260 08
Oxen and cows, 111	7,300 00	108 03
Plants, 10 packages	48 66	Free.
Tobacco, 3 tons, 7 cwt., 1 quarter	1,202 07	300 20
Vegetables, 364 packages	530 47	26 52
Whisky, 4,670 gallons	3,406 55	4,545 31
Wine, 244 packages	1,406 47	281 29
Total from British North America	94,660 35	15,908 44
From the United States.		
Agricultural implements, 28 packages	184 93	5 per cent. ad valorem.
Bran, 26,100 bushels	5,336 03	Do.
Bread, 1,812 packages	6,706 23	Do.
Building material, 563 packages	2,613 20	Do.
Butter, 63 tons, 5 cwt., 1 quarter, 18 pounds	31,700 17	Do.
Barrels, empty, 3,162	730 00	Do.
Boats, 4	238 47	Do.
Candles, 557 packages	1,387 00	Do.
Carriages, 26	4,304 65	Do.
Cheese, 25 tons, 15 cwt., 3 quarters, 13 pounds	7,611 47	Do.
Clothing, 39 packages	564 53	Do.
Coffee and cocoa, 11 tons, 17 cwt., 1 quarter, 26 pounds	3,821 01	Do.
Cotton goods, 263 packages	19,514 68	Do.
Corks, 12 packages	340 65	Do.
Confectionery, 67 packages	749 47	Do.
Corn, 19,554 bushels	13,446 60	Do.
Dry goods, 1,240 packages	19,680 13	Do.
Drugs, 352 packages	4,710 77	Do.
Earthenware, 59 packages	739 73	Do.
Fertilizers, 3,537 packages	7,309 73	Do.
Furniture, 961 packages	10,580 16	Do.
Fish, preserved, 494 packages	2,116 91	Do.
Flour, 15,268 packages	83,071 15	Do.
Fruit, preserved, 964 packages	2,934 54	Do.
Fruit, canned, 1,523 packages	2,241 80	Do.
Glassware, 283 packages	3,168 07	Do.
Groceries, 7,924 packages	122,129 68	Do.

A.—*Statement showing the imports at Bermuda, &c.*—Continued.

Articles.	Value.	Amount of duty.
Hay, 5,848 packages	$9,528 93	5 per cent. ad valorem.
Horses, 19	3,382 20	Do.
Hardware, 869 packages	9,874 13	Do.
Jewelry and plated ware, 64 packages	4,165 72	Do.
Leather manufactures, 523 packages	23,840 98	Do.
Lard, 7 tons, 14 cwt., 1 quarter, 8 pounds	1,805 46	Do.
Lumber, &c	15,417 07	Do.
Machinery, 39 packages	1,464 87	Do.
Meal, corn, 2,830 barrels	9,752 46	Do.
Miscellaneous, 139 packages	978 20	Do.
Musical instruments, 27	3,192 40	Do.
Oats, 31,030 bushels	14,147 40	Do.
Oil, kerosene, 195,955 gallons	7,986 16	Do.
Oils, paints, &c., 113 packages	3,805 60	Do.
Perfumery, 172 packages	427 98	Do.
Potatoes, 2,364 barrels	5,187 69	Do.
Peas and beans, 415 packages	1,513 53	Do.
Poultry, on ice, 68 packages	1,639 99	Do.
Provisions, 151 tons, 7 cwt., 1 quarter, 4 pounds	38,055 59	Do.
Paper, 646 packages	1,143 66	Do.
Rice, 19 tons, 19 cwt., 1 quarter, 4 pounds	1,046 33	Do.
Rope, 167 packages	1,917 47	Do.
Salt, 410 packages	764 07	Do.
Sheep, 1,408 packages	11,110 60	Do.
Soap and starch, 1,581 packages	5,168 43	Do.
Sugar, 133 tons, 1 cwt., 1 quarter, 25 pounds	17,835 63	Do.
Ship chandlery, 189 packages	5,421 46	Do.
Stationery, 124 packages	2,214 24	Do.
Seeds, 25 packages	335 80	Do.
Straw goods, 68 packages	817 60	Do.
Tea, 9 tons, 10 cwt., 10 pounds	6,535 90	Do.
Tinware, 73 packages	876 00	Do.
Wooden ware, 121 packages	749 47	Do.
Wicker work, 64 packages	296 87	Do.
	574,341 77	28,717 09
Books, 39 packages	350 40	Free.
Beef, fresh, 556 quarters	8,896 23	135 29
Brandy, 1 gallon	14 60	97
Cigars, 500,850	6,093 06	1,218 83
Coal, 705 tons	3,216 74	Free.
Fruit, fresh, 937 packages	4,873 75	Free.
Gin, 40 gallons	24 33	38 93
Ice, 1,395 tons	1,464 87	Free.
Malt liquor, 11 hhds., 452 dozen	1,007 40	164 51
Oxen and cows, 1,074	96,225 27	1,064 82
Plants, 39 packages	306 60	Free.
Rum, 100 gallons	48 66	97 33
Tobacco, 16 tons, 3 quarters, 3 pounds	6,438 60	1,437 08
Vegetables, 319 packages	919 80	Free.
Wine, 103 packages	1,056 07	211 21
Whisky, 678 gallons	725 13	659 92
Total from the United States	706,003 28	33,745 98
From Barbadoes.		
Charcoal, 653 packages	423 40	5 per cent. ad valorem.
Dry goods, 6 packages	43 80	Do.
Fertilizers, 25 packages	146 00	Do.
Groceries, 11 packages	53 53	Do.
Hardware, 2 packages	9 73	Do.
Miscellaneous, 30 packages	218 99	Do.
Molasses, 2,488 gallons	1,567 07	Do.
Preserves, 5 packages	4 86	Do.
Sugar, 309 tons, 400 cwt., 1 quarter, 12 pounds	28,624 73	Do.
	31,092 11	1,554 60
Fruit, fresh, 28 packages	92 46	Free.
Gin, 7 gallons	14 60	6 81
Vegetables, 20 packages	29 20	Free.
Total	31,228 37	1,561 41
From Demerara.		
Charcoal, 470 packages	301 73	5 per cent. ad valorem.
Dry goods, 15 packages	77 86	Do.
Drugs, 10 packages	92 46	Do.

A.—*Statement showing the imports at Bermuda, &c.*—Continued.

Articles.	Value.	Amount of duty.
Fruit, 53 packages	$73 00	5 per cent. ad valorem.
Fertilizers, 7 packages	43 80	Do.
Molasses, 2,502 gallons	822 47	Do.
Preserves, 28 packages	288 74	Do.
Sugar, 110 tons, 4 cwt., 1 quarter, 14 pounds	10,842 93	Do.
	12,542 99	627 15
Rum, 16,305 gallons	8,044 60	15,970 07
Total	20,587 59	16,597 22
From Jamaica.		
Coffee, 19 cwt., 2 quarters	189 80	5 per cent. ad valorem.
Dry goods, 7 packages	77 86	Do.
Drugs, 38 packages	175 19	Do.
Ginger, 14 packages	38 93	Do.
Molasses, 129 gallons	53 53	Do.
Preserves, 1 package	14 60	Do.
Sugar, 29 tons, 9 cwt., 1 quarter, 4 pounds	3,581 73	Do.
	4,131 64	206 58
Cigars, 60,600	1,542 73	149 89
Cordials, 4 gallons	14 60	3 89
Total	5,688 97	360 36
From Turk's Island.		
Donkeys, 17	219 00	5 per cent. ad valorem.
Dry goods, 25 packages	422 87	Do.
Groceries, 13 packages	87 60	Do.
Preserves, 3 packages	14 60	Do.
Salt, 1,036 bushels	63 26	Do.
	807 33	40 37
Wine, 10 packages	38 93	7 78
Total	846 26	48 15
From Martinique.		
Charcoal, 100 packages	63 26	5 per cent. ad valorem.
Molasses, 905 gallons	248 20	Do.
Miscellaneous, 4 packages	29 20	Do.
Sugar, 19 cwt., 2 quarters, 16 pounds	97 33	Do.
	437 99	21 90
Cigars, 1,000	48 67	2 43
Total	486 66	24 33
From Cuba.		
Cigars, 2,000	111 93	973 00
From Germany.		
Cigars, 88,000	1,080 40	214 13
Fancy goods, 9 packages	321 20	16 06
Total	1,401 60	230 19

B.—*Statement showing the exports from Bermuda for the year ending December* 21, 1883.

Articles.	Value.
To the United Kingdom.	
Arrowroot, 2 tons, 1 cwt., 8 lbs	$1,502 58
Casks, empty, 37	48 66
Government stores, 463 tons	
Horns, 3 lots	40 15
Hides and skins, 2,784	3,353 49
Old metal, 86 tons	418 52
Potatoes, 44 crates	63 26
Tallow, 103 casks	1,379 69
Total	$6,806 35
To British North America.	
Arrowroot, 1 ton, 5 cwt	657 00
Beets, 6 boxes	6 81
Bags, empty, 1,000	58 40
Fruit, fresh, 1 lot	6 79
Hogsheads, empty, 204	248 19
Hides, 87	238 00
Old metal, 265 tons	1,508 66
Malt liquor, sour, 3 hogsheads	43 80
Onions, 3,629 boxes	2,451 75
Potatoes, 10 barrels	42 58
Tomatoes, 3,102 boxes	818 52
Total	6,062 50
To the United States.	
Arrowroot, 1 tons, 9 cwt, 2 qrs., 2 lbs	1,349 53
Beets, 4,280 boxes	3,749 39
Beans, 81 barrels	186 15
Bones, 14 packages	14 60
Bulbs, 62 packages	194 90
Cedar, 150 feet	19 95
Carriage, 1	97 33
Casks, empty, 80	75 43
Furniture, old, 33 packages	377 15
Hides, 1	4 87
Horses, 3	437 98
Junk, old, 43 packages	316 32
Miscellaneous, 16 packages	48 66
Musical instrument, 1	104 63
Metal, old, 1 package	10 16
Onions, 289,742 boxes, 22 barrels	$238,459 00
Potatoes, 162 boxes, 26,645 barrels	124,728 40
Tomatoes, 936 crates, 76,923 boxes	33,700 51
Vegetables, 96 packages	86 38
Wine, 2 packages	9 24
Total	404,254 58
To Barbadoes.	
Beans, 15 barrels	75 $9\frac{2}{4}$
Cedar-posts, 910	575 $3\frac{8}{}$
Casks, empty, 342	489 $0\frac{8}{}$
Onions, 1 barrel, 2,854 boxes	1,979 $2\frac{1}{}$
Potatoes, 277 boxes, 755 barrels	2,437 $1\frac{5}{}$
Total	5,556 70
To Demerara.	
Cedar posts, 43	23 $3\frac{7}{}$
Casks, empty, 361	460 85
Onions, 1,733 boxes, 4 barrels	661 87
Potatoes, 410 boxes, 2,895 barrels	8,163 06
Total	9,309 15
To Jamaica.	
Onions, 225 boxes	1,638 28
Potatoes, 367 barrels	1,249 03
Tomatoes, 7 boxes	4 62
Total	2,891 93
To Martinique.	
Casks, empty, 2,176	2,890 94
Kerosene, 8,642 cases	2,764 03
Onions, 816 boxes	794 23
Potatoes, 16 boxes, 519 barrels	1,700 85
Total	8,150 05
To Turk's Island.	
Alcohol, 10 gallons	24 33
Onions, 191 boxes	148 19
Potatoes, 5 barrels	18 25
Total	190 77

RECAPITULATION OF IMPORTS AND EXPORTS.

Condensed statement of imports and exports at Bermuda for the year ending December 30, 1883.

From or to—	Imports.	Exports.	Duties.
United Kingdom	$296,542 66	$6,806 35	$37,640 97
British North America	94,660 35	6,062 50	15,908 44
United States	706,003 28	404,254 58	33,745 98
Barbadoes	31,228 37	5,556 70	1,561 41
Demerara	20,587 59	9,309 15	16,597 22
Jamaica	5,688 97	2,891 93	360 36
Turk's Island	846 26	190 77	48 15
Martinique	486 66	8,159 05	24 33
Havana	111 93		973 00
Germany	1,401 60		230 19
Total	1,157,557 67	443,231 03	107,090 05

C.—*Statement showing the imports and exports between Bermuda and the United States for the year* 1883.

IMPORTS.

Articles.	Value.	Articles.	Value.
Agricultural implements, 28 packages	$184 93	Leather manufactures, 523 packages	$23, 840 98
Barrels, empty, 3,162	730 00	Lard, 7 tons, 14 cwt., 1 qr., 8 lbs	1, 805 46
Beef, fresh, 556 quarters	8, 896 23	Lumber, &c	15, 417 07
Boats, 4	238 47	Machinery, 39 packages	1, 464 87
Books, 39 packages	350 40	Malt liquors, 452 dozen, 11 hogsheads	1, 007 40
Bran, 26,100 bushels	5, 336 03	Meal, corn, 2,830 barrels	9, 752 46
Bread, 1,812 packages	6, 706 23	Miscellaneous, 139 packages	978 20
Brandy, 1 gallon	14 60	Musical instruments, 27	3, 192 40
Building material, 563 packages	2, 613 20	Oats, 31,030 bushels	14, 147 40
Butter, 63 tons, 5 cwt., 1 qr., 18 lbs	31, 700 17	Oil, kerosene, 195,955 gallons	7, 986 16
Candles, 557 packages	1, 387 00	Oils, paints, &c., 113 packages	3, 805 60
Carriages, 26	4, 304 65	Oxen and cows, 1,074	96, 225 27
Cheese, 25 tons, 15 cwt., 3 qrs., 13 lbs	7, 611 47	Paper, 646 packages	1, 143 66
Clothing, 39 packages	564 53	Peas and beans, 415 packages	1, 513 53
Cigars, 500,850	6, 093 06	Plants, 39 packages	306 60
Coal, 705 tons	3, 216 74	Perfumery, 172 packages	437 98
Coffee and Cocoa, 11 tons, 17 cwt., 1 qr., 26 lots	3, 821 01	Poultry (on ice), 68 packages	1, 639 99
Confectionery, 67 packages	749 47	Provisions, 151 tons, 7 cwt., 1 qr., 4 lbs	38, 055 59
Corks, 12 packages	340 65	Potatoes, 2,364 barrels	5, 187 69
Corn, 19,554 bushels	13, 446 60	Rice, 19 tons, 19 cwt., 1 qr., 4 lbs	1, 046 33
Cotton goods, 263 packages	19, 514 68	Rope, 167 packages	1, 917 47
Dry goods, 1,240 packages	19, 680 13	Rum, 100 gallons	48 66
Drugs, 352 packages	4, 710 77	Salt, 410 packages	764 07
Earthenware, 59 packages	739 73	Sheep, 1,408	11, 110 60
Fertilizers, 3,537 packages	7, 309 73	Ship-chandlery, 189 packages	5, 421 46
Fish, preserved, 494 packages	2, 116 91	Seeds, 25 packages	335 80
Flour, 15,268 packages	83, 071 15	Soap and starch, 1, 581 packages	5, 168 43
Fruit, preserved, 964 packages	2, 984 54	Stationery, 124 packages	2, 214 24
Fruit, canned, 1,523 packages	9, 241 81	Straw goods, 68 packages	817 60
Fruit, fresh, 937 packages	4, 873 75	Sugar, 133 tons, 1 cwt., 1 qr., 25 lbs	17, 835 63
Furniture, 961 packages	10, 580 16	Tea, 9 tons, 10 cwt., 10 lbs	6, 535 90
Gin, 40 gallons	24 33	Tinware, 73 packages	876 00
Glassware, 283 packages	3, 168 07	Tobacco, 16 tons, 3 qrs., 3 lbs	6, 488 60
Groceries, 7,924 packages	122, 129 68	Wicker-work, 64 packages	296 87
Hay, 5,848 packages	9, 528 20	Wine, 103 packages	1, 056 07
Hardware, 889 packages	9, 874 13	Whisky, 678 gallons	725 13
Horses, 19	3, 382 20	Wooden ware, 121 packages	749 47
Ice, 1,395 tons	1, 464 87	Vegetables, 319 packages	919 80
Jewelry and plated ware, 64 packages	4, 165 72	Total	706, 003 28

EXPORTS.

Articles.	Value.	Articles.	Value.
Arrowroot, 2 tons, 9 cwt., 2 qr., 2 lbs	$1, 349 53	Junk (old), 43 packages	$316 32
Beans, 81 barrels	186 15	Miscellaneous, 16 packages	48 66
Beets, 4,280 boxes	3, 749 39	Metal (old), 1 package	10 16
Bones, 14 packages	14 60	Musical instrument, 1	104 63
Bulbs, 62 packages	194 90	Onions, 289,742 boxes, 22 barrels	238, 459 00
Carriage, 1	97 33	Potatoes, 162 boxes, 26,645 barrels	124, 728 40
Casks, empty, 80	75 43	Tomatoes, 926 crates, 76,923 boxes	33, 700 51
Cedar, 150 feet	19 95	Wine, 2 packages	9 24
Furniture (old), 33 packages	377 15	Vegetables, 96 packages	86 38
Hides, 1 package	4 87		
Horses, 3	437 98	Total	404, 254 58

D.—*Statement showing the navigation at the ports of Bermuda for the year ending December 31, 1883.*

From or to—	Entered.						Cleared.					
	Steamers.		Sailing vessels.		Total.		Steamers.		Sailing vessels.		Total.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Great Britain	6	14,796	22	6,594	28	21,390	5	11,098	4	1,401	9	12,499
British Possessions	27	16,574	32	4,619	59	21,193	27	16,832	36	6,084	63	22,916
Spanish Possessions	6	8,041	3	534	9	8,575	1	71	6	1,801	7	1,872
Italian Possessions	1	1,592	...	...	1	1,592	1	976	...	...	1	976
United States	43	50,970	31	8,924	74	59,894	48	62,143	33	8,763	81	70,906
French Possessions	...	...	1	236	1	236	1	1,368	6	1,217	7	2,585
German Possessions	...	...	...	...	...	...	...	...	1	768	1	768
Portuguese Possessions	...	...	...	...	...	...	...	...	1	95	1	95
Hayti	...	...	...	...	...	...	...	...	1	293	1	293
	83	91,973	89	20,907	172	112,880	83	92,488	88	20,422	171	112,910

Flag.	Entered.						Cleared.					
	Steamers.		Sailing vessels.		Total.		Steamers.		Sailing vessels.		Total.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
British	79	88,154	61	11,822	140	99,976	79	88,669	61	11,785	140	100,454
German	1	1,906	4	1,414	5	3,320	1	1,906	3	1,187	4	3,093
Norwegian	...	...	7	2,431	7	2,431	...	...	7	2,437	7	2,437
Dutch	...	...	1	193	1	193	...	...	1	193	1	193
American	...	...	16	5,047	16	5,047	...	...	16	4,820	16	4,820
Danish	1	866	...	...	1	866	1	866	...	...	1	866
Spanish	1	71	...	...	1	71	1	71	...	...	1	71
Italian	1	976	...	...	1	976	1	976	...	...	1	976
	83	91,973	89	20,907	172	112,880	83	92,488	88	20,422	171	112,910

AMERICAN TRADE WITH PORTO RICO.

Statement showing the imports from the United States at the port of San Juan, Porto Rico, during the fiscal year ending June 30, 1884.

Articles.	Quantity.	Value.		Total.
		American.	Foreign.	
Marble.....100 kilograms..	31,338	$80 45	$329 90	$410 35
Blacking and pitch.....do....	9,728	.....	321 02	321 02
Petroleum and other mineral oils.....do....	469,953	4,376 32	33,219 92	37,596 24
Common glassware and looking-glasses.....do....	28,235	926 10	8,611 30	9,537 40
Stoneware.....do....	232	.....	40 34	40 34
Porcelain.....do....	7,602	.....	2,736 72	2,736 72
Goldware, jewels ..... hectograms..	10	.....	1,000 00	1,000 00
Silver goods.....do....	12	.....	180 00	180 00
Ironware and steel (manufactured)..100 kilograms..	163,760	143 98	26,447 37	26,591 35
Brass and copper ware.....do....	3,065	80 84	3,061 04	3,141 88
Drugs and medicines.....do....	41,797	197 46	9,399 29	9,596 75
Paints (dry and oil), varnishes.....do....	23,803	5 89	2,486 84	2,492 23
Starch.....do....	3,188	.....	318 80	318 80
Soap, common.....do....	2,360	.....	306 80	306 80
Paraffine and whale oil.....do....	4,032	.....	1,209 60	1,209 60
Perfumery and essences.....kilograms..	2,470	372 00	4,568 00	4,940 00
Gunpowder and blasting effects.....do....	1,907	.....	476 75	476 75

Statement showing imports from United States at port of San Juan, Porto Rico, &c.—Cont'd.

Articles.	Quantity.	Value.		Total.
		American.	Foreign.	
Cotton goods ..... kilograms..	10,978	.....	$6,882 10	$6,882 10
Rope, hemp, and canvas ..... 100 kilograms..	125,540	$537 00	24,283 36	24,820 36
Sacking ..... kilograms..	1,516	52 00	251 20	303 20
Woolen goods ..... do....	86	.....	159 10	159 10
Silk goods ..... do....	37	.....	740 00	740 00
Paper, writing and printing ..... 100 kilograms..	16,800	.....	3,390 45	3,390 45
Printed books, music, pictures ..... kilograms..	3,822	.....	2,052 90	2,052 90
Straw paper, pasteboard, &c. ..... 100 kilograms..	251,346	1,191 80	32,303 42	33,495 22
Empty hogsheads and barrels ..... do....	2,048,094	22,920 34	8,056 06	30,976 40
Lumber ..... cubic meters..	5,269	15,892 00	22,308 00	38,200 00
Shingles, clapboards ..... 100 kilograms..	61,100	4,429 75	.....	4,429 75
Wood for manufacture ..... do....	2,732	.....	218 56	218 56
Furniture ..... do....	89,606	1,137 98	25,964 05	27,102 03
Horsehair, hay ..... do....	11,583	2,610 12	837 20	3,447 32
Hides and shoe leather ..... kilograms..	61	.....	137 75	137 75
Shoes and boots ..... do....	1,966	.....	4,397 50	4,397 50
Harnesses and carriage apparel ..... do....	979	760 00	1,198 00	1,958 00
Animal grease, horns, &c. ..... 100 kilograms..	11,577	211 60	2,103 80	2,315 40
Pianos ..... one..	1	.....	250 00	250 00
Clocks and watches ..... number..	544	.....	3,914 00	3,914 00
Sewing machines ..... 100 kilograms..	1,280	.....	1,280 00	1,280 00
Industrial instruments ..... do....	6,024	15 60	1,550 64	1,566 24
Carriages and carts ..... do....	*1,148	.....	3,991 84	3,991 84
Iron vessels (measurement) ..... tons..	2,445½	.....	20,391 50	20,391 50
Pork and bacon ..... 100 kilograms..	621,208	3,248 42	69,726 02	72,974 44
Butter ..... do....	72,689	3,008 80	26,066 80	29,075 60
Lard ..... do....	836,585	3,940 64	70,108 06	74,048 70
Codfish ..... do....	20,802	.....	1,040 10	1,040 10
Fresh and pickled fish ..... do....	46,320	141 40	2,174 60	2,316 00
Grain ..... do....	8,720	.....	348 80	348 80
Rice ..... do....	31,413	.....	2,827 17	2,827 17
Dried vegetables ..... do....	25,926	88 40	1,985 68	2,074 08
Flour ..... do....	2,336,053	38,760 28	264,320 08	298,080 36
Corn flour ..... do....	40,749	311 42	2,296 50	2,607 92
Vermicelli, macaroni, &c. ..... do....	36,705	79 29	6,303 70	6,382 99
Common biscuits ..... do....	48,092	255 32	5,996 64	6,251 96
Seeds of all kinds ..... do....	7,537	4 50	146 24	150 74
Vegetables, fresh ..... do....	50,431	140 86	1,775 50	1,916 36
Fruits ..... do....	15,150	.....	1,636 18	1,636 18
Spice ..... kilograms..	19,876	341 80	3,633 40	3,975 20
Cognac and brandy ..... hectoliters..	15½	.....	697 50	697 50
Beer ..... do....	188	168 00	2,088 00	2,256 00
Sugar, loaf ..... 100 kilograms..	3,812	.....	1,486 68	1,486 68
Preserves ..... kilograms..	6,009	27 00	2,977 50	3,004 50
Cheese ..... do....	48,221	812 80	18,475 60	19,288 40
Sweetmeats and fine biscuits ..... do....	29,566	35 52	4,695 04	4,730 56
Common jewelry ..... do....	55½	58 00	877 75	935 75
Whalebone ..... do....	110	.....	957 00	957 00
Buttons, all kinds ..... do....	102	.....	484 50	484 50
Rubber, raw and manufactured ..... do....	616	.....	1,286 00	1,286 00
Oilcloth and tarpaulin ..... 100 kilograms..	446	.....	200 70	200 70
Oilcloth, fine ..... kilograms..	2,109	.....	1,792 65	1,792 65
Toys ..... do....	179½	.....	170 50	170 50
Lace, all kinds ..... do....	344	.....	944 00	944 00
Hats, all kinds ..... dozen..	200	.....	1,300 00	1,300 00
Elastic, bands and pieces ..... kilograms..	78	.....	312 00	312 00
Tobacco:				
Raw ..... do....	5,021	536 76	2,084 16	2,620 92
Manufactured ..... do....	194	.....	388 00	388 00
Sundry articles without classification	.....	.....	.....	1,296 39
Total	.....	102,899 94	762,977 19	867,173 52

* 13 carriages.

Exports of produce from San Juan, Porto Rico, to the United States in the fiscal year 1883–1884.

Articles.	Quantity.	Value.		Total.
		American.	Foreign.	
Sugar ..... 100 kilograms..	9,163,803	$327,865 85	$267,781 24	$595,647 19
Molasses ..... do....	1,444,673	15,577 61	19,094 54	34,672 15
Hides ..... do....	281	.....	70 25	70 25
Coffee ..... do....	105	.....	29 40	29 40
Rum ..... liters..	15,500	.....	1,240 00	1,240 00
Tobacco ..... 100 kilograms..	78	25 41	.....	25 41
Total	.....	343,468 87	288,215 53	631,684 40

NAVIGATION.

Statement showing the navigation between the port of San Juan, Porto Rico, and the United States for the fiscal year ending June 30, 1884.

Flags.	From or to—	Entered.		Cleared.		Total tons.
		Vessels.	Tons.	Vessels.	Tons.	
American	Boston	.....	.....	7	4,608	4,608
British	..... do	.....	.....	22	11,095	11,095
Swedish	..... do	.....	.....	1	447	447
American	Baltimore	1	290	.....	.....	290
Do	Cape Hatteras	.....	.....	4	1,613	1,613
Spanish	New York	21	18,052	2	1,626	19,678
American	..... do	4	816	14	3,596	4,412
British	..... do	3	4,339	5	5,021	9,360
American	New Haven	.....	.....	1	220	220
Do	Mobile	1	219	.....	.....	219
Do	Philadelphia	1	298	.....	.....	298
Do	Portland	5	1,546	.....	.....	1,546
Do	Pensacola	1	305	.....	.....	305
Total	.....	37	25,865	56	28,226	54,091

Comparative statement of exports of produce from the island of Porto Rico to the United States and Europe during the years 1882 *and* 1883.

Articles.	Quantity exported.		1883.	
	1883.	1882.	Increase.	Decrease.
Sugar ..... 100 kilograms..	79,738,103	83,566,673	.....	3,828,570
Coffee ..... do....	17,070,508	13,540,305	3,530,203	.....
Molasses ..... do....	30,864,367	24,547,258	6,317,109	.....
Tobacco ..... do....	1,757,892	2,335,530	.....	577,638
Hides ..... do....	553,657	373,557	180,100	.....
Wood ..... do....	57,773	21,172	36,601	.....
Rum ..... liters..	49,901	103,367	.....	53,466
Tallow ..... 100 kilograms..	32,984	22,560	10,424	.....
Cotton ..... do....	.....	3,684	.....	3,684
Oranges ..... thousand..	4,807,880	5,196,000	.....	388,120
Cattle ..... head..	14,314	11,675	2,639	.....
Cocoanuts ..... thousand..	87,670	.....	87,670	.....

Statement showing the amount of duties collected at the different custom-houses for imports and exports during the fiscal year ending June 30, 1884.

Custom-houses.	Importation.	Exportation.
	Pesos.	*Pesos.*
Capital	831,679 31	49,455 88
Mayaguez	439,320 35	54,868 54
Ponce	632,132 28	62,944 72
Arroyo	60,713 90	20,382 02
Humacao	76,841 64	21,769 48
Aguadilla	100,670 28	18,735 52
Arecibo	71,084 08	26,985 59
Vieques	19,917 50	6,663 61
Fajardo	19,721 72	16,361 39
Naguabo	.....	3,914 65
Guayanilla	.....	7,398 24
Total	$2,252,081 01	289,479 67

EDWARD CONROY,
Consul.

UNITED STATES CONSULATE,
San Juan, Porto Rico.

THE BRAZILIAN CANCER CURE.

REPORT OF CONSUL ATHERTON, OF PERNAMBUCO.

I have the honor to inclose the report asked for in dispatch No. 60, date of June 25, 1884. The medicine will be forwarded by direct steamer. Dr. Bandeira declines making any charge for his information or for the medicines.

I have to report in addition to the accompanying report of Doctor Bandeira that I know of a case where this medicine has cured cancer in the breast. The woman is about her work every day, and appears to be cured. There is a scar left about the size of the end of a man's thumb, with a depth of about a quarter of an inch. I expect before the direct steamer leaves to see the report of the principal surgeon of the Liverpool Cancer Hospital. The cure is painful, as the place has to be reopened and more of the milk put in.

They seem to think here that the medicine is not injured in its preparation, but I think if I had a cancer I should prefer to be treated where I could get the plant fresh.

HENRY L. ATHERTON,
Consul.

UNITED STATES CONSULATE.
Pernambuco, September 13, 1884.

THE CANCER CURE.

Dr. Bandeiro to Consul Atherton.

The notice about "alveloz," published in the Therapeutic Gazette, is truthful, and we can say complete, because we know very little about that plant and its effects.

I would not like to risk a theory in order to explain its physiological and therapeutic action as an escharotic, but I am able to assure that it gives a splendid result

in the treatment of ulcers of different kinds. A magistrate named Dr. Guennes was the first that made it known four years ago. He had a cancroid of the face, and went to his place, "Brys da Madre Deos," after having consulted several doctors that were unable to cure him.

He was perfectly cured there by the natives of the country, and wrote to Recife, sending the plant and its juice, that was tried here with success in several cases.

Last year the juice of alveloz was used in the Hospital Pedro II with so animating success that Dr. Vellozo published a notice in the papers of Recife advising the employment of it.

Many and many other experiences have been made in cases of epithelioma of the lips, nose, face, and eyelids.

The application of alveloz in ulcerated cancers (sarcoma or carcinoma) has not given the result that many doctors hoped.

The plant belongs to the family *Euphorbiaceæ*, was discovered by Martins in "Yoazeiro" Bahia, and described the first time by Müller in the important book of Martins, "*Flora Brasiliensis*," 1875, with the name of *Euphorbia heterodoxa*.

It grows spontaneously in the whole north of Brazil, where it is known by different names, being the most common that of alveloz, arveloz, or aveloz.

The natives of "Brej'o," "Fra Madra Deos," used to burn the wound with the juice running from a piece of a broken or cut stem, after having washed it with decoction of leaves of tobacco.

We have used generally the fresh juice of the plant because it becomes soon coagulated, and acquires a bad smell.

But our chemists have succeeded in keeping it liquid and unalterable by treating it with salicylic acid, that does not modify its action.

The juice prepared in that way has given always the same results, employed in many cases.

I send a bottle of the juice prepared in that way, that I hope will give the United States so good results as by us, and we are able to furnish of it so much as you want after the first experiments that must be made in small cancroids, where the effect is easier to be observed.

Barao de Santa Cruz (chemist) treating the juice by water, and after by absolute alcohol, obtained a resin, of which I send a small quantity, that seems to contain the active principle of the plant.

This resin has a powerful irritating action, and has been employed in the proportions of 1 or 3 to 100 with vaseline.

DR. R. BANDEIRO,
Surgeon at the Pedro II Hospital, Pernambuco.

RECIFE, *September* 5, 1884.

GERMANY IN THE WESTERN PACIFIC.

REPORT BY CONSUL CANISIUS.

The German Government continues to foster German trade in the Western and Southern Pacific to the utmost. During the present year two German gunboats, the Hyaene and Albatross, arrived at this port. The latter vessel proceeded at once to Sydney, where she will receive a new crew. She will then return to Apia, it being intended to keep her on this station permanently. The Hyaene also left shortly after for New Britain and New Ireland. In the early part of this year the Hyaene was employed in punishing the savages on the coast of New Ireland for the murder of the crew of the German schooner Meoko. This small vessel, belonging to the German firm having its headquarters at Apia, left Sydney for Meoko Harbor, Duke of York Island (a small coral island in St. George's channel). While passing through this narrow strait the vessel was becalmed and obliged to anchor near the New Ireland coast, where she was attacked by natives in canoes. The crew, being entirely without arms, were speedily overcome, the vesses plundered of everything the savages fancied, and burned.

In order to punish the natives for this deed, the Hyaene burned a number of villages by throwing shells and rockets into them. A part of the crew landed and chased the natives into the jungle, not without meeting with considerable resistance from the naked savages, whose weapons consist, for the most part, of bows and arrows and spears.

The Hyaene will again visit the scene of the outrage, and inflict further chastisement if found possible.

Another indication that New Britain is receiving more attention from the German firms in the Pacific is the fact that the German Government has established a consular office at Meoko. The Hyaene took with her Mr. G. von Oertzen, the former first secretary of the consulate here, who will remain in the group subject to the German consul here. He has, I understand, special instructions in regard to the labor traffic, New Britain and New Ireland being the only good recruiting ground left for the firm here.

The harbors of Meoko and Makada, on Duke of York Island, were purchased from the native chiefs as early as January, 1879, by the commander of a German ship of war on behalf of the German Government; and this is, I believe, considered by Germans a sufficient bar to British annexation.

The idea of colonizing the Samoan Islands with Germans was, very sensibly, abandoned. It is difficult to imagine how this impracticable scheme came to be entertained in Berlin, for it must have been well known there that Europeans, especially natives of such a climate as that of Germany, cannot perform hard field labor in a tropical country like Samoa. It is therefore not probable that any attempt will be made to colonize New Britain, which is notably much more unhealthy than Samoa.

There can be no doubt that the Melanesian island groups have a great future before them. Persons who have visited the various islands are loud in their praise of the beauty of the scenery and the prodigious fertility of the soil. Some white residents of New Britain claim that the climate is not more insalubrious than that of Samoa or Fiji. Others admit that fevers are common, but remind one that with the clearing off of the jungle the climate improves, as has been the case here.

However that may be, it is certain that the principal German company in the South Pacific is directing considerable more attention to its affairs in New Britain than heretofore. Several of their vessels have left here for New Britain during the last four months, and I understand that they are making large purchases of land from the natives. Those establishing plantations in New Britain have, for the present, a great advantage over those in Samoa and Fiji, in that they have the labor on the spot. How long the supply of labor for Samoa and Fiji will last no one can tell, but from indications here I should judge not very long.

T. CANISIUS,
Consul.

UNITED STATES CONSULATE,
Apia, August 20, 1884.

MEXICAN EXPORTS.

REPORT BY MINISTER MORGAN.

[Translation from the Diario Oficial, of Thursday, September 25, 1884.]

DEPARTMENT HACIENDA, SECTION 7.

Statement of exports from the Mexican Republic during the third quarter of the fiscal year 1883–1884.

EXPORTS BY ARTICLES.

Henequen:		
Hammocks	$22,077 10	
Cordage	30,915 65	
Raw material	1,004,373 26	
		$1,057,366
Hides:		
Tanned	3,245 50	
Sheep	611 00	
Goats	364,457 51	
Beeves	237,650 59	
Deer	47,640 39	
Other animals	5,305 20	
		658,910 19
Wood:		
For construction	8,765 00	
Fine	369,039 67	
Common	68,386 98	
Dye	207,918 06	
		654,109 71
Coffee		407,778 80
Live animals:		
Asses	120 00	
Horses	84,555 50	
Hogs	40 00	
Sheep	870 00	
Mules	22,339 00	
Cows	91,110 00	
Various other animals	422 50	
		199,457 00
Ixtle:		
Hammocks	30 00	
Cordage	1,897 50	
Raw material	131,195 49	
		133,122 99
Lead		120,270 53
Worked tobacco	52,188 80	
Leaf tobacco	22,372 00	
		74,560 80
Caoutchouc		58,413 25
Sugar		41,980 26
Hogs' bristles		34,452 01
Pearl sheets		29,186 99
Chewing gum		26,890 71
Herb roots		26,110 00
Cathartic medicine		25,550 44
Fruits		22,219 54
Bees' honey		17,971 80
Frijoles (Mexican beans)		13,314 70
Pearls		8,400 00
Extract of logwood		6,600 00
Manufactures		6,545 95
Añil		6,449 00
Sarsaparilla		6,409 52
Ships' tackle		6,010 00
Sugar loaves		5,758 50
Mixed merchandise		4,700 00
Chick-pea		4,384 00

Chili (pepper)		$4,144 25
Vegetables		4,017 80
Nickel money		3,673 39
Blank books		3,500 00
Baggages		3,368 00
Wool		3,289 00
Furniture		1,695 00
Maize		1,546 53
Oil paintings		1,420 00
Provisions		1,385 50
Figures of wax, cloth, and clay		1,369 00
Feathers		1,330 12
Machinery		1,121 50
Salt		1,050 00
Common marble		1,030 00
Spices		1,020 75
Live plants		1,015 50
Printed books		1,015 00
Vanilla		1,015 00
Straw mats		986 30
Shrimps		914 00
Sweets		814 00
Archil		648 00
Toys		600 00
Precious stones		600 00
Copper ore	$560 00	
Copper plates	120 00	
		680 00
Chocolate		523 80
Mescal (alcohol)		485 50
Crockery of the country		472 00
Old clothes		420 00
Bones		409 50
Stone coal		373 00
Miraguano fiber		360 00
Cheese		322 75
Sugar-cane		319 50
Saddles		261 00
Cocoa		250 00
Lemons		232 00
Horns		228 00
Hats		227 15
Wax		209 28
Salt meats		207 25
Asphaltum		200 00
Cocoanut oil		165 00
Cascarilla bark		160 00
Wheat flour		106 00
Fire-wood		100 00
Barley		91 91
Tortoise shells		80 00
Grain		73 00
Bronze		60 00
Lime		53 33
Objects of natural history		50 00
Bran		47 50
Nacre shells		45 00
Wine		40 00
Anise		36 00
Saffron		30 00
Soap		25 00
Empty barrels		24 00
Cascalotte		10 00
Medicinal herbs		10 00
Drugs		8 00
Damiana		7 00
Toys		2 00
Wicks		2 00
Various articles		4,791 19
Total		3,775,134 00

EXPORTS OF PRECIOUS METALS.

Coined silver	$7,465,265 46	
Bar silver	1,342,919 31	
Silver ore	301,240 00	
Sulphuric ore	32,450 22	
Black precipitate silver	6,000 00	
Silver dust	2,400 00	
		$9,150,274 99
Coined gold	56,691 00	
Bar gold	213,497 92	
Gold dust	11,580 98	
		281,769 90
Foreign coined silver	39,245 00	
Foreign coined gold	6,874 00	
		46,119 00
Total		9,478,163 89

EXPORTS BY CUSTOM-HOUSES.

Custom-houses.	Precious metals.	Other articles.	Total exportation.
Vera Cruz	$5,549,074 00	$944,091 22	$6,493,165 22
Nuevo Laredo	1,054,460 96	411,926 44	1,466,387 40
Progreso	112,094 50	1,105,564 50	1,217,659 00
Mazatlan	1,090,931 28	59,880 50	1,150,811 78
Paso del Norte	460,169 10	19,109 45	479,278 55
Nogales	289,798 95	24,631 17	314,430 12
Tampico	151,480 00	153,607 34	305,087 34
Matamoros	99,910 00	108,635 83	208,545 83
Isla del Calmans		199,214 41	199,214 41
Guaymas	142,191 29	8,964 50	151,155 79
La Paz	99,547 12	41,415 54	140,962 66
Frontera	9,565 00	129,888 05	139,453 05
Acapulco	93,295 00	36,305 21	129,600 21
Coatzacoalcos		118,275 22	118,275 22
Manzanillo	78,075 00	27,813 75	105,888 75
Tuxpan		104,370 11	104,370 11
San Blas	78,315 00	15,903 00	94,218 00
Piedras Negras	33,577 00	43,949 00	77,526 00
Altata	21,547 00	41,229 44	62,776 44
Mier	24,454 00	18,862 00	43,316 00
Salina Cruz	23,655 50	17,905 10	41,560 60
Zapaluta	35,000 00		35,000 00
Campeche	10,805 00	23,715 00	34,520 00
Soconusco		34,043 58	34,043 58
Camargo	11,796 00	20,852 05	32,648 05
Puerto Angel		23,378 99	23,378 99
Sásabe	7,652 19	9,913 50	17,565 69
Palominas	770 00	14,306 44	15,076 44
Guerrero		6,088 36	6,088 36
Tonala		2,180 00	2,180 00
Ascension		5,212 00	5,212 00
Quitovaquita		2,016 00	2,016 00
Cabo San Lucas		1,530 80	1,530 80
Bahia de la Magdalena		355 50	355 50
Total	9,478,163 89	3,775,134 00	13,253,297 89

EXPORTS BY COUNTRIES.

Countries.	Metals.	Merchandise.	Total exportation.
United States	$4,324,252 44	$2,583,985 53	$6,908,237 97
England	4,146,371 39	657,385 74	4,803,757 13
France	657,839 32	103,755 90	761,595 22
Germany	181,072 50	201,381 12	382,453 62
Spain	73,700 50	213,092 11	286,792 61
Colombia	59,627 74	13,671 60	73,299 24
Guatemala	35,000 00	12 00	35,012 00
Russia		1,500 00	1,500 00
San Salvador	300 00		300 00
Honduras		250 00	250 00
Belgium		100 00	100 00
Total	9,478,163 89	3,775,134 00	13,253,297 89

Exports during the three quarters ending March 31, 1884.

Quarters.	Precious metals.	Other effects.	Total exportation.
First	$7,985,899 30	$2,827,515 12	$10,813,414 42
Second	8,333,594 59	2,905,870 44	11,239,465 03
Third	9,478,163 89	3,775,134 00	13,253,297 89
Total	25,797,657 78	9,508,519 56	35,306,177 34

Comparison of the value of merchandise exported during the three first quarters of the fiscal year 1882–'83, *with those exported during the same period of the year* 1883–'84.

Articles.	Three quarters, 1883–'84.	Three quarters, 1882–'83.
Henequen	$3,036,870 92	$2,400,883 14
Woods	1,440,317 88	1,168,517 34
Hides	1,326,645 67	1,227,852 81
Coffee	1,176,976 62	1,076,320 57
Live animals	416,384 00	376,967 50
Ixtle	332,562 96	488,480 38
Vanilla	222,846 50	207,975 25
Tobacco	192,343 08	185,887 75
Caoutchouc	156,036 93	102,076 51
Sugar	138,084 99	123,101 68
Lead	120,314 53	33,287 83
Herb roots	116,061 46	59,348 58
Chewing-gum	93,303 95	62,913 03
Bees' honey	66,708 79	78,903 97
Frijoles (Mexican beans)	65,563 71	55,949 61
Fruit	62,166 59	60,496 38
Extract of logwood	58,336 95	.....
Hogs' bristles	55,006 75	40,522 26
Pearl shells	49,546 99	42,734 00
Archil	42,454 66	52,636 71
Copper	37,467 00	55,676 00
Cathartic medicine	29,394 60	24,986 65
Pearls	26,470 00	13,000 00
Sarsaparilla	26,404 14	40,986 59
Añil	24,577 00	35 00
Chick-pea	14,755 00	16,684 69
Sugar, loaf	9,465 80	26,914 67
Grain	6,573 00	1,692 00
Spices	5,260 25	14,638 87
Maize	4,772 29	58,822 61
Vegetables	4,383 55	8,524 85
Cocoa	4,167 66	503 00
Other articles which are not specified, as the exportation thereof does not reach $10,000 per annum	146,295 34	157,586 87
Total	9,508,519 56	8,265,507 05
PRECIOUS METALS.		
Coined silver	20,355,491 72	19,360,154 04
Bar silver	3,849,989 71	3,299,736 10
Silver ore	653,034 35	362,970 04
Sulphuric ore	65,644 86	77,109 88
Black precipitate silver	9,828 00	.....
Silver dust	4,715 00	.....
Silver in slags	2,500 00	.....
Worked silver	1,000 00	.....
Silver in small ore	.....	30,104 62
Argentiferous lead	.....	2,960 12
Coined gold	118,698 30	272,719 50
Bar gold	532,671 25	412,099 03
Gold dust	29,832 99	.....
Foreign-coined silver	156,882 60	98,354 28
Foreign-coined gold	17,369 00	116,580 09
Total of metals	25,797,657 78	24,032,787 70
Total of other products	9,508,519 56	8,265,507 05
Total	35,306,177 34	32,298,294 75

EMILIO ALEMAN,
First Official.

MEXICO, *September*, 1884.

A NEW INDUSTRY FOR ROUEN.

REPORT BY CONSUL WILLIAMS, OF ROUEN, ON CHINA-GRASS MANUFACTURES.

The Exposition Régionale, opened at Rouen on the 1st of June, 1884, includes the ten surrounding departments, which are noted for their manufactures, and fairly exhibit the progress made in France in the manufacture of various machinery.

Great efforts are made by the makers of tapestry to maintain their reputation as regards the fabrics of Elbeuf, and there are the products of textile industries of every form from unbleached yarn to that of webbing, which, thanks to the inventive genius and indefatigable labor of one man, M. Fromage, has become a source of activity and prosperity for the vale of Darnetal, a suburb of Rouen. But, while the exhibits do justice to the energy exercised under somewhat unfavorable circumstances, and while they give a favorable impression upon the whole, an eager desire is felt to ascertain whether any new industry has been brought to light.

CHINA GRASS, AND MANUFACTURES OF.

A new textile has appeared which is neither silk, linen, nor cotton, yet has the different qualities of each. China grass (which is likely to play an important part in the affairs of Normandy in a few years) is indigenous to Asia, where it has been cultivated from the remotest times. The mummies of Egypt are enveloped in bands of China grass; the strings of bows and lines for fishing are always the product of this plant.

The Chinese have been constant in the cultivation of the China nettle for the manufacture of garments which are indestructible in the sense that they can be renovated by dyeing generation after generation. The first question is as to culture. China grass can be acclimatized in any country. Its fibers have three times the strength of flax, and as much again as that of hemp. It is perennial, and having once laid hold of the soil, it requires no further attention. The leaves, which are very numerous, supply an excellent pulp for paper, and when mixed with the plant after it has been peeled produce an excellent and abundant fodder for cattle. According to the climate and number of crops, it produces from 50,000 to 100,000 kilograms per hectare (which equals 2 acres, 1 rood, 25 perches). It spreads so rapidly that it is said that a single clump is sufficient to cover 24 hectares in three years.

Up to the present time China grass has only been cultivated in Algeria and in the middle of France. Shoots are now to be planted in the spaces called "paluds," which extend the whole length of the Sorgue, and it is hoped that two crops yearly may be got in, if not four, as in Algeria and China. If it succeeds well in this light soil it will be a source of wealth for those land-owners to whom the cultivation of madder and the vine is no longer remunerative. The so-highly esteemed fiber of China grass, although little of it has appeared on the European markets owing to the amount of manual labor required in peeling (the Chinese workman scarcely produces 2 pounds per day), has already been used for making every possible kind of tissue and stuff—the finest and the coarsest. Thus we have ships' cable, sail-cloth, lace and cam-

bric, velvet, table linen, alpaca (called English alpaca), &c., all a marvelous success. In Belgium and Holland the finest linen cambric is called "neteldock," derived from words which signify nettle and tissue.

In the last century experiments in spinning and weaving China grass produced a cambric of exceptional quality, the name of which has been since given to a material which is an attempt to imitate linen. The low cost-price of the fiber of China grass, no culture being required, the abundance of the crops, and the rapidity of spread are all greatly in its favor. Why, then, has not this cultivation, so easy, so novel, original, and abundant, been carried on to a greater extent? Because hitherto the process of peeling was inadequate to the requirements. Until the present time a Chinaman earning 2½ cents had to work hard to turn out his 700 grammes per day. A machine which has just been invented, and which peels 200 kilograms a day, representing about 300 horse-power, is the most interesting feature of the newly discovered industry. After several experiments it has been ascertained that peeling while in a green state is a *sine qua non* in the employment of this plant for manufacture. Starting from this point, an individual whose name will henceforth be connected with the prosperity of the new textile worked out the ingenious peeling-machine now seen in operation at the exhibition. Mr. Berthet in his voyage to the United States for the establishment there of spinning and weaving considered deeply the question of effecting mechanically the work hitherto done by hand. He was led to construct the machine which bears his name, the belt of which (an important appendage) takes the stuff, conducts it to be peeled, and delivers it in a workable state. Each machine is capable of peeling 3½ hectares per month, a hectare containing a million roots. It may be mentioned that the speed of the machine can be increased at will. Each machine, peeling the equivalent of 300 kilos of dried stuff, will produce the equivalent of 15,000 kilos of dried fodder, *i. e.*, the feed of 750 sheep (5 per cent. of weight of live beast). Female and boy labor is employed—about 4 or 5 on each machine.

Having given the technical description of the machine, let us pass on to the results attained. The problem of rapid and economical peeling is solved. Awaiting the results of home culture, China grass is imported from Shanghai and Algieria by the only two houses which at present manufacture it into fabric—a third house is being founded at Avignon. One belongs to Mr. Ferry of Essannes (Seine at Oise); the other, the first established in France, managed by Mr. Berthet, is at Malaunay. It is of the latter we are about to speak. It has one fault, it cannot produce a sufficient quantity. It supplies some to a few privileged persons; but supposing it could turn out, instead of a thousand, enough for 60,000 spindles, it could not meet the demand, as the different sorts of lace alone require that quantity. Far ampler means of production are absolutely necessary for the fabrication of the fiber; at least 100,000 spindles should be fed. The last and most interesting phase of this manufacture is this: Up to the present time the weaving of the grass has absorbed the whole production. An enterprising merchant at Rouen, M. Goullon the elder, is the only person who has hitherto spun it at his workshops on Jacquard looms. The results he has up to the present time obtained, and which are nearly all purchased by the large houses at Paris, where they are bought by certain Rouen firms, are—

1. Materials for summer clothing. (Mr. Bourgeois, a Rouen tailor, has made up a good many suits this year.) But it is principally in the middle of France that Mr. Goullon has found a market for these goods.

for corsets.

3. Table napkins and linen.

4. Coverings for furniture.

All these tissues are like silk in gloss and feel, and like linen in toughness. Cooler than cotton, warmer than linen, fine as the most delicate muslin, things made with China grass are, so to speak, indestructible. At the present time it is fully appreciated at Turcoing, Roubaix, and Zurich. There it will find a ready market when the national supply can equal the demand. At St. Pierre de Calais it has been experimented with to make lace with the happiest results. At Evreaux and Roubaix they mix wool with the grass, and so obtain one of the toughest threads that can be used in spinning. Then it will naturally be asked, is it a rival of cotton? No, for at the present time at least, and in the limited sources of supply, the cost of a piece of manufactured China grass is 20 per cent. higher than that of a piece of cotton; but, on the other hand, it is a finer and more serviceable product. In a sketch of this sort it is not possible to treat the matter in all its technical details. We but simply call attention to the qualities of the new products, the experiments made successfully at Malaunay and Rouen, the merits of a machine which overcomes the chief obstacle in the way of the general use of the grass and the preserving and clever results got by Mr. Berthet, who found an able coadjutor in Mr. Goullon.

In calling attention thus to this material, which is more particularly adapted to a hot climate and moist soil, such as is found in many parts of Florida and other Southern States, it would appear that a new and valuable industry could be introduced if only in an experimental way.

CHAS. P. WILLIAMS,
Consul.

UNITED STATES CONSULATE,
Rouen, France, September 11, 1884.

TRADE AND COMMERCE OF PERU.

REPORT BY CONSUL BRENT, OF CALLAO.

Callao and the commercial dependencies thereof were evacuated by the Chilian forces, military and civil, in the latter part of October, 1883. From that period the authorities appointed by the Government of General Iglesias took charge of their posts, but, as will be readily understood, found it a very difficult matter to immediately effect a thorough or satisfactory organization. The archives of the different offices had been sent to Santiago; the entire system of the custom-house had to be reformed, and it was well towards the close of the year that even an approximate degree of regularity was noted in the fiscal establishments of this port. For that reason I am compelled to limit my report, principally as regards the commercial movement of Callao, from the 1st of January to the 30th of June of the present year.

POLITICAL EVENTS.

The most serious and unfortunate influence has been exercised on the commercial interests of Peru by the political occurrences that have taken place within the past five years. Peru has lost the large income

(25,000,000 silver soles* annually) which she derived from her nitrate and guano property, now ceded to Chili. She also loses the customs revenue received from the ports in the territories of Tarapacá and Tacna, held at present by Chili; and from the vigorous efforts being made by the last-named Republic towards securing the control of the Bolivian markets, it is probable that Peru will be further prejudiced. As general taxes are almost unknown in this country, the only impost of that character worthy of mention being the contribution levied on real estate in the large cities, the revenue of Peru is to-day reduced to the receipts from her custom-houses, and which, in the present disturbed condition of political affairs, the afflictive financial status of the inhabitants of the Republic, and the steady decline in the price of sugar, one of her most important productions in the markets abroad, I would not estimate at over 5,000,000 silver soles annually. And, strange to say, her expenditures have not been proportionately reduced. Her civil list is overflowing; she has an expensive army to maintain, and although her navy, inasmuch as vessels are concerned, no longer exists, provision must be made for the numerous officers and pensioners in that branch of the service. The foreign debt of Peru now exceeds 300,000,000 silver soles. But, as the Department is aware, that that obligation is guaranteed mainly by the guano property now held by Chili, and the question has not yet been finally decided as to the responsibility of the new owner for the amount of the liens bearing on the property referred to. Ever since the establishment of the Government of General Iglesias commerce has been greatly hampered by the action of that Government in closing many of the ports, from the presence of revolutionary forces in their vicinity, and our usually flourishing trade with the vast interior, supplied with all descriptions of merchandise from the coast, is wholly paralyzed, and so has been for three years past. This, of course, was due to the military operations in those districts, and now the army of General Caceres, situated directly on the roads leading to these markets, effectually prevents a resumption of commercial activity. Moreover the inhabitants of the sections of the interior lying back of Lima are, in their turn, unable to send their silver ore, hides, wool, beeves, vegetables, and other productions to the coast.

Taking, therefore, all of these circumstances into consideration, the commercial and financial position of Peru must be admitted to be unfavorable to an extreme, and until such time as the Republic may enjoy the benefits of internal tranquillity no essential improvement may be anticipated.

FINANCIAL.

The present administration, that of General Iglesias, has not as yet published the customary budget or estimates of national receipts and expenditures. This omission proceeds doubtless from the exceptional condition of public affairs, and in a measure also from the natural disinclination to lay before the people the mortifying circumstances connected with that portion of the peace arrangement with Chili relating to the payment of Chilian troops while remaining in Peruvian territory. The treaty was signed on the 20th of October last, and the forces of Chili left Chorrillos, nine miles from Lima, on the 3d of the present month, August. Peru obliged herself by that treaty to contribute the sum of 300,000 silver soles monthly towards defraying the expenses of maintaining the Chilian army until withdrawn, and this payment, at

*A sol (silver)=80.6 cents United States gold.

first essayed by the minister of finance, was soon discovered to be beyond the power of the government. An agreement was then entered into with the Chilian representative by which Peru was allowed to postpone the said payment for one year, that is, covering into the Chilian treasury in, say, January, 1885, the sum due in January, 1884, plus an interest of 6 per cent. per annum on such amounts.

PERUVIAN TARIFF.

But the necessities of the Government were such as to demand the establishment of a new customs tariff, by which the duties on all imports and on most articles of exportation were considerably augmented. The ad valorem system was adopted, and although the Department has been made acquainted with the scale ordered, it may be well to mention here a few of the principal articles taxed and the amount of the duty:

On cotton, woolen, linen, and silk goods, 25 per cent. ad valorem; on machinery, household utensils, lumber, and manufactured fancy articles, various rates ad valorem, whilst the value fixed on the merchandise referred to was in many cases so exorbitant as to call for immediate and energetic remonstrance from the commercial community. Articles of food, wine, liquors, cigars, &c., 30 per cent. ad valorem, and medicines also 30 per cent. These duties are payable in silver, and there is an additional 10 per cent. ad valorem imposed on all articles of import, which is paid in the paper currency of the country and which is placed apart for monthly incineration in the public squares of Lima by way of reducing the volume of paper money in circulation. This sum reaches the figure of about 300,000 paper soles monthly, or, at 7 cents silver to the paper sol, or thereabouts, for the value fluctuates, say, 20,000 soles in silver.

So numerous, influential, and pressing have been the complaints of the merchants with respect to the value given to their goods for this ad valorem duty that the government consented to the appointment of a commission composed of several leading foreign and Peruvian mercantile men of Lima and three of the customs officers of superior rank for the purpose of a thorough revision. This important work is now under way, and the opinion amongst the interested class is that the result attained will be satisfactory.

PAPER MONEY.

So long ago as 1878 the Government of Peru, in order to cancel the debt due from it to the banks of Lima, assumed the responsibility of the paper money they had placed in circulation, then amounting to more or less 20,000,000 soles. At that moment exchange on London, which constitutes the financial thermometer all along this coast, was quoted at 19 pence to the sol. Further private issue of paper was prohibited, but the war with Chili having been declared early in 1879, the Government was forced to appeal to Congress for authority to issue treasury notes, which were made legal tenders. As the war continued these issues were repeated, and it is estimated that the amount of paper money now in circulation in Peru, wholly under the responsibility of the state, reaches the large sum of 85,000,000 soles. No one expects that this money will ever be redeemed, but in the absence of a sufficient amount of specie it is accepted as a circulating medium, and it is exchangeable for silver at the ratio of 15 to 1. During the dictatorship of Don Nicolas de Pierola in 1880, a special issue of paper, known as "in-

cas," was floated by his orders, but on his overthrow was refused by the people at large, and the holders are awaiting some administrative action regarding its fate. The sum issued is thought to be about 25,000,000 in paper soles. As may readily be comprehended the immense depreciation of this paper money brought ruin to hundreds of families, before well to do, and in many cases the opportunity was improved of paying off debts contracted when exchange ruled at 20 pence in this same currency, when its value had fallen to six pence per paper sol.

SILVER.

The amount of coin silver held in Lima and Callao is thought by those who should be considered as authorities to be under 7,000,000 soles. Lima possesses a magnificent mint, modeled on that of Philadelphia, from whence the machinery and plant were brought, but owing to the danger attending interior travel and the disorderly condition of the mining country little silver reaches the capital, and consequently the work of the office is limited. The monthly receipts at Lima from the Cerro de Pasco and other mining centers are on an average 30 to 35 bars each month, 3,000 soles, or thereabouts. To retain this precious metal in the country an export duty of 3 per cent. is established on ore and bar silver and of 5 per cent. on coined money of the Republic. Notwithstanding these heavy restrictions large sums find their way out, it being at times, from the circumstances of the moment, impossible for merchants to forward other remittances.

BANKS AND BANKING.

The banks doing business at Lima and Callao, and of any importance are two, the London Bank of Mexico and South America, an English institution of high standing, and the Bank of Callao, organized by merchants residing at Lima and this port. Discounts of only the most approved paper, and even then with collateral security, are effected at the rate of 1 per cent. per month, and the highest rate of interest allowed on yearly deposits is 6 per cent.

GUANO AND NITRATE.

The Lobos Islands are the only deposits of guano now left to Peru, if we except certain small quantities of the fertilizer said to exist on the northern coast on the mainland and difficult of access. The guano from Lobos is of an inferior quality, and it is estimated that the amount attainable is from 60,000 to 80,000 tons. In the treaty of peace with Chili it is established that Peru may only sell her guano in a proportionate rate to the sales by Chili from her newly acquired territory, that her (Chili) interests may not be jeopardized.

For the report of the exportation of nitrate from Tarapacá the Department will be fully advised by the United States consul at Iquique.

MINING INTERESTS.

Silver mines.—I have referred to the general stagnation in this branch of industry, attributable to the presence of belligerents in the mining districts, and also to the poverty of the people interested. It is a common saying in Peru that in order to profitably work a silver mine one must command the resources of a gold mine. There can be no question,

however, that the future financial prosperity of this Republic depends mainly on the development of her boundless mineral wealth. I am informed, on very excellent authority, that were peace restored to Peru funds would be immediately forthcoming from a syndicate in London for the purpose of proceeding with the drainage of the great silver mines of the Cerro de Pasco, many of the most important of which have been flooded since 1824. This company would also push forward to completion the celebrated Oroya Railway to that mining center, a work offering no difficulties of a serious nature, and by thus furnishing cheap transportation to the coast would give a most decisive impulse to mining enterprise and production.

Cinnabar.—The famed cinnabar mine at Huancavelica, near Ayacucho, five days' journey from the coast, is and has been abandoned for some years past. It is national property, and is considered as only second in importance to the Almaden, of California, but, owing to its position in the far interior and the enormous expenses of working and transporting the ore, is neglected.

Petroleum.—Petroleum is found abundantly along the northern coast, near Payta and Tumbez. The cost of production militates against it, and that imported from the United States controls the market. An excellent quality of kerosene from the United States sells here, and profitably, at 50 cents silver the gallon.

RAILWAYS.

From the data I have at hand there appear to be 996 miles of railway now in working order in Peru. This figure includes the many short private lines built by the sugar planters on their estates to bring the cane to the crushing mills. The railways in general cover working expenses, and in some cases return small profits. The scarcity of freight, due again to the disturbed condition of affairs, is a serious drawback. With the exception of two of the lines, the property of English companies, and the roads built on the estates, the railways are state property. Several of them, however, are held under contract by American citizens, notably the Oroya, and the Mollendo and Puno lines; and from the large sums of money due them from the Government for services rendered it is probable that American interests in them will be continued for many years to come.

AGRICULTURE.

Sugar.—The principal agricultural production of Peru, sugar, has received an almost fatal blow from the competition in foreign markets of the article manufactured from beet root. Peruvian sugar, refined and of a superior class, commanded in Liverpool, three years ago, prices ranging from 23*s.* to 25*s.* per quintal, and the last advices from that market quote the same at from 13*s.* 6*d.* to 15*s.* This is absolutely ruinous to the producers. The Government a month ago abolished the export duty on the article, but the assistance thus given was inadequate. The output in 1879 was over 100,000 tons, and in the present year it will not reach 35,000. Yet the planters are obliged to keep their establishments in working order. The vast sums expended in the purchase of the most improved machinery for manufacture, brought from the United States, would be imperiled by a suspension of labor, the plant would soon become so injured as to be unserviceable, and the planters

consider themselves fortunate if they barely cover their running expenses.

Rice and tobacco.—In the northern departments a considerable quantity of rice and tobacco is grown, principally for home consumption.

Cotton.—The cultivation of cotton is almost abandoned. During the civil war in the United States the Peruvian planters made considerable progress in this branch, but since the enormous supply furnished by the Southern States of the Union have turned their attention to other products.

Wool.—In the south of Peru the exportation of wool is decreasing. Political troubles have tended to produce this result. From persons interested in the business I learn that the output has averaged for the past two years, per year, 80,000 quintals (100 pounds) sheep wool; 60,000 to 65,000 quintals alpaca wool. Sheep wool now sells at Liverpool for 7¾*d.* to 9½*d.* per pound; alpaca wool for 16½*d.* per pound.

Panama hats.—During the last year of the Chilian occupation of Payta, 1882–'83, according to the statistics furnished by their customs authorities, the value of the straw hats, known to trade as Panama hats, exported from that section was $50,000.

Miscellaneous.—Payta also sends abroad large quantities of cascarilla (the Peruvian bark), tamarinds, hides (dry and salted), and beeves; and to the coast furnishes petroleum or kerosene oil, charcoal, and some little cotton.

One of the principal drawbacks to agriculture in Peru is the extremely limited supply of labor.

COOLIE LABOR.

The estates in the north depend almost entirely on Chinese workmen for farm hands. The laborers engaged under the cooly contract system have all worked out their time and are now free. Some of them, induced by the offer of high wages, continue on the plantations, but the majority settle in the large towns and become small shop or inn keepers. Therefore the Government is doing all possible towards inviting a new tide of Chinese immigration towards Peru, but on humane and liberal bases, giving guarantees for good treatment, wages, and even offering facilities for repatriation when the term of service may have expired. A special commissioner has been appointed, now on his way to San Francisco, to treat with some of the great Chinese companies at that place, and from thence to proceed to China. The planters and agriculturists authorized this officer to contract for a certain number of laborers, to arrive immediately, and for other lots subsequently. The plan proposed is to enter upon arrangements with some company in China which would supply the workmen, receive their wages, and act as the agents of the Chinese laborers with their employers, under the inspection of the Government of Peru, and the provisions of the existing treaty between China and Peru with regard to the introduction of free labor into this country, establishing the rights of the laborer, would be observed. The recent arrival of the Chinese legation at Lima, and the singular demonstrations of respect and courtesy made towards it by the Peruvian Government, go to prove that the matter will be vigorously pushed.

AMERICAN MANUFACTURES IN PERU.

Although the general markets of Peru are mainly supplied from England and the Continent, American manufactures hold their own, and the demand and consumption rather increase than diminish, when

we consider the exceptional state of the Republic. I have referred to the fact that the more valuable machinery on the sugar estates, and the plant on all of the railways excepting two short lines owned by English companies, are brought from the United States. Agricultural machinery is also imported, but to a limited extent, whilst farming tools of American manufacture are gaining in esteem. An extensive trade is done in sewing machines, furniture, canned goods, kerosene, lard (the entire supply derived from the United States), cordage, sail-cloth, perfumery, saddles and harness, trunks, clocks, billiard tables (a few only, but the American tables are preferred), street-car plant, notions of all kinds; and during the war American fire-arms and fixed ammunition were largely imported.

The two ice manufactories and several breweries established at Lima and Callao obtained their machinery from the United States.

In the line of dry goods European productions rule the market. Manchester, many years ago, studied the peculiar tastes of the people of Peru, and manufactured the baizes or "bayeta," used to a great extent by the population of the interior, to exactly meet their requirements. So firm a footing has been gained that the buyers from the interior will not purchase this particular class of goods unless the gaudy medal used as a sort of trade-mark by the manufacturers is attached to each bale.

There are several first-class American houses doing business at Lima and Callao, and they leave no effort undone to further the demand for articles manufactured in the United States. Attempts have been made to introduce American carpetings, but without signal success. There is always a consumption of American shirtings and osnaburgs, which may be still developed more advantageously.

Peru receives nearly all of its plank and dressed timber from Oregon. In the accompanying tables will be found the statistics of the trade. Her coal comes from Cardiff and her breadstuffs from Chili.

AMERICAN PACKERS AT FAULT.

The packing of goods in the United States for these countries does not appear to meet with the care it requires. Shippers should recollect that in many instances freight is sent to Peru from New York via the Isthmus of Panama, and is subjected to several rough handlings. Goods from Europe via Cape Horn, or through the Straits of Magellan by steamer, are not exposed to the same dangers.

From the attention now being given to these markets in the United States, and the gratified appreciation manifested by the Panama purchasers of the prospective advantage to be derived therefrom, I anticipate that within a very few years the enterprising manufacturers of the Union will be rewarded.

NAVIGATION AND COMMERCE.

During the year ending June 30, 1884, twenty-three American vessels arrived at this port, representing 14,938.69 registered tons. For a carefully compiled statement of all tonnage at Callao for the first six months of the year in course, I refer to statement A, herewith.

The steam lines touching at Callao are the Pacific Steam Navigation Company (British) and the South American Company (Chilian). These two are under one direction on the coast, and run in combination. The Compagnie Transatlantique sends its steamers from Havre as far north on the coast of Peru as Salaverry, and the German Company Kosmos,

of Hamburg, is also in active operation, dispatching vessels monthly, and occasionally making trips to Central America for coffee freights.

IMPORTS AND EXPORTS.

Statement B gives a report of the importations into Callao from the United States during the first half of this year, and the exports from this port to the United States, showing a balance of trade to the amount of $299,121.44 in favor of the United States. The entire exports of Peruvian goods from Callao to all quarters for the period named only amounted to $56,061.92, which clearly expresses the almost total stagnation of business and production in this district.

I trust that when the time arrives for submitting another report to the Department on the commercial condition of Peru that peace and internal order may have been restored to this interesting republic, so exuberant in natural wealth, yet so unfortunate as regards an opportunity for its proper development.

H. M. BRENT,
Consul.

UNITED STATES CONSULATE,
Callao, August 15, 1884.

A.—*Tonnage at Callao from January* 1 *to June* 30, 1884.

ARRIVALS.

Flag.	Sailing ships.		Steamers.	
	Number.	Registered tonnage.	Number.	Registered tonnage.
British	45	33,113	155	202,508
American	12	8,865	.....	.....
Chilian	6	1,917	26	37,879
Italian	29	5,850	.....	.....
Portuguese	21	4,822	.....	.....
Peruvian (coasters)	276	3,242	.....	.....
Honduras	17	2,682	.....	.....
Ecuadorian	2	396	.....	.....
German	4	1,811	13	14,238
French	1	774	6	11,000
Colombian	4	181	.....	.....
Danish	1	297	.....	.....
Norwegian	2	1,132	.....	.....
Totals	420	65,082	200	265,625

Total tonnage entering, 330,707.

B.—*Importations into Callao from the United States from January* 1 *to June* 30, 1884.

	Value.
Lumber from Oregon	$95,690 00
Lard	22,558 00
Kerosene	40,000 00
Wheat, California	15,000 00
General merchandise	130,000 00
	303,248 00
Exports to United States from Callao for said period (declared)	4,126 56
Balance, favor of the United States	299,121 44
Total export of Peruvian goods from Callao to all quarters during said period	56,061 92

COCHINEAL EXPORT FROM THE CANARIES.

REPORT BY CONSUL M'KAY, OF TENERIFFE.

I have the honor to submit herewith returns of cochineal exported from these islands during the year ending June 30 last, together with a statement showing comparative exports for the three previous years.

This is, as you are aware, the chief article of export from these islands, and is the only one of sufficient importance, comparatively, to make statistics of interest.

Some wine, tobacco, fruit, vegetables, and a few other articles are annually exported, but the quantities produced as compared with the world's consumption, or even as compared with the quantity produced in many other places, make the figures very insignificant, and very little pains are taken for arriving at even the approximate value or amount of these articles.

In furnishing these returns of cochineal, I call your attention to the great decline in the quantity produced, and also to the great shrinkage in value as compared with former years.

In 1879 this dye was selling for 70 to 75 cents per pound in this market, and it is now difficult to realize at 20 cents.

The exports for the fiscal year of 1880 to 1881 reached the amount of 50,000 cwt., which at the average value, for that year, of 40 cents per pound, shows an income of $2,240,000 to the farmers for that sole article of cultivation.

This last fiscal year the production has decreased to some 22,000 cwt., with a value scarcely reaching $500,000.

I feel confident that this disastrous state of affairs will not escape attention in all its consequences, especially when I add that cochineal provided perhaps half the value of the products of the islands, and that the small increase of other agricultural products has recently met with the effect of lower prices, so that I estimate that this year's crop will only give 50 per cent. of the value of the crops harvested four years ago.

In the hopes of a better day farmers began mortgaging their lands some years ago, and now being unable even to meet the interest on their debts, I am continually hearing of forcible sales at ruinous rates, or that mortgagees are taking over property because of impossibility of realizing the amount loaned thereon, although when made the amount loaned was only half the appraised value of the property.

This leads to bankruptcy, misery, and emigration under contracts of more or less onerous conditions.

All classes, trades, and professions are unfavorably affected, as may be supposed from the limited extent of our population and territory.

The vegetable crop this last season was a large one, but owing to the unfortunate economical condition of the West Indies (the market for these products), farmers had to submit to a reduction of prices, amounting in some cases to over 50 per cent. of last year's prices.

The grain harvest has been more abundant than any known in the last forty years, owing partly to increased acreage sown, but principally to exceptionally favorable weather from seed time to harvest.

Wheat, which in former years seldom sold for less than $3 the fanega (about 108 pounds), and sometimes reached $4, is now being offered at $2 to $2.25.

Barley, worth in preceding seasons $1.25 to $1.75 the fanega (about 80 pounds), now only brings 60 to 70 cents.

These low values make the situation of the inhabitants of the Archipelago very unfortunate and despondent, especially as they cannot see more hopeful future before them.

Exports of cochineal from the Canary Islands for the year ending June 30, 1884.

Whither exported.	Bags.	Pounds.	Value.
England	7,083	1,321,592	$264,318 40
France	3,500	618,320	123,664 00
United States	1,593	299,900	59,980 00
Germany	512	94,146	18,829 20
Spain	486	88,236	17,647 20
Morocco	10	1,782	356 40
Total	13,184	2,423,976	484,795 20

Comparative statement of exports of cochineal from the Canary Islands for the four years ending June 30, 1884.

Whither exported.	1880–'81.	1881–'82.	1882–'83.	1883–'84.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*
England	3,259,670	2,715,983	2,268,364	1,321,592
France	1,679,898	952,460	1,320,793	618,320
United States	334,663	868,813	981,923	299,900
Germany	197,979	151,797	266,150	94,146
Spain	151,295	144,886	208,017	88,236
Morocco	8,150	6,377	14,010	1,782
Total	5,631,655	4,840,316	5,059,257	2,423,976

H. B. McKAY, *Consul.*

UNITED STATES CONSULATE,
Teneriffe, August 15, 1884.

TRADE AND COMMERCE OF ROUEN.

REPORT BY CONSUL WILLIAMS.

SAFETY AND FACILITY OF THE PORT OF ROUEN.

Like most of the great ports of Northern Europe, Rouen is an interior port, and above all others is enabled to penetrate far into the interior, and to supply Paris most directly and economically by water as well as by rail. Thus its situation so far from being one of relative inferiority is a privileged one, as merchandise is brought further without breaking bulk, and is subjected to the least possible expense of the more costly modes of transportation to the capital, viz, by transfer to smaller boats or railway cars.

The maritime transportation is constantly increasing.

From 726,782 tons in 1871, it rose to 1,453,231 tons in the maritime basin in 1883.

In the fluvial basin it was 764,755 tons, or 2,217,986 tons for both basins.

The freight carried by the two railways of the north and west during the same period was 876,433 tons.

Most of the ships from other European countries entering the port find return cargoes, and 90 per cent. of the coasting vessels find return lading.

The arrival of ships drawing upwards of 20 feet of water was frequent, and the favorable report and opinion of the ship captains, establish the safety and facility of the navigation of the Seine.

A captain who arrived from New Orleans on the 21st of April last, with a cargo of 2,500 tons of corn, wrote as follows to the Chamber of Commerce at Rouen:

ROUEN, *April* 27, 1884.

SIR: Allow me to state that your port is entirely different from what many persons represent it to be.

When my ship (the Abington) arrived on the Havre roads I learned that ships of the same tonnage were usually in the habit of entering Havre for the purpose of lightering. This delay seemed to me to be useless. I determined not to enter there, and came to Rouen by rail. Mr. M. E. Deshaye, my broker, allowed that I was justified in my refusal, and, acting upon information I had received, it proved to be correct, for ships of even a greater draught could ascend the river. And I am happy to say that I have found by experience that the difficulties talked of are purely imaginary, and in my opinion the employment of a tow-boat was not necessary.

Henceforth I shall neglect no opportunity of speaking highly of your port and of the great facilities there for unloading with expedition.

I consider that your merchants are fully justified in seeking to obtain the fair fame which your port justly deserves.

I am, sir, your obliged servant,

M. CASTER,
Captain of the Abington.

It is to be regretted that while ships laden with wheat, rice, and corn, that the United States cease to send here, arrive in large quantities from India, La Plata, Brazil, and the Black Sea, to supply the local consumption, and that of the two millions of inhabitants of Paris, a trade which no rivalry can take from them, there should still exist an interruption to commercial intercourse, and that under a mistaken prejudice, on account of pretended difficulties of approach, this important port should remain excluded from the charter parties of the northern American ports.

The direct trade, however, between this port and New Orleans has increased latterly in consequence of the regular passage of steamers to and fro, and much corn, as well as cotton, is received by that route.

I cannot avoid referring to the injury which the Produce Exchanges of the cities of Baltimore, New York, and Philadelphia impose upon themselves and their countrymen by neglecting to remove this embargo, for I feel convinced that it is now continued only from an oversight as to its existence. I feel assured that each month of its continuance deprives the American farmer of an immense outlet for his grain, and consequently of considerable profit.

I hope sincerely that no more time will be lost in remedying the evil.

GENERAL ASPECT.

Business at the end of the year 1882 for the cotton industry was not good, and there was no improvement in 1883, in spite of a light stock and orders for future delivery, under the double influence of the abundance of the raw material, and of the continued introduction of foreign manufactures. Prices continue to decline, and the activity that certain specialties still retain does not greatly affect this state of things.

The French merchants and manufacturers attribute the position to the low tariff of importation, and to the duties imposed by the colonies.

Prints, which are considered as rather an article of luxury, are subject to the caprice of fashion; they have not been able to hold their own during 1883.

Rouennerie, a species of cotton goods peculiar to Rouen, has suffered less; but hand-weaving has disappeared entirely from the country, and is not adequately replaced by machine weaving.

Tanning, which was not active at the end of the year, improved in the second quarter, and has continued to keep up the improvement.

Machine foundries have not received any important orders, except brass-founders, who have been moderately busy.

Chemical products, owing to the decrease of the manufacture of prints, have done but little business, and English competition has also interfered with them; but towards the end of the year this business revived, in consequence of a general understanding between manufacturers of all nations.

Some of the principal exports and imports of the port of Rouen are:

Feathers, down.—Exportation: 1883, 10 tons; destination: Russia. This export has a certain importance on account of its volume; it chiefly finds its way to Russia.

Hoofs and horns of cattle.—Importation: 1883, 22 tons; places of export: England and America. A portion of the hoofs and horns of cattle which come to Rouen is used in the manufacture of combs and buttons; it is especially an article of transit. These goods are sent in bulk.

Raw hides.—Importation: 1883, 3,260 tons; 1877, 300 tons. Places of export: The low countries, England, Portugal, Scandinavia, America. Exportation: 1883, 511 tons. These, on account of their nature, and being insufficiently salted, give off a disagreeable smell. They are dispatched in bales, and are easily stowed away.

As a rule, these goods merely pass through Rouen, their ordinary destination being Paris. Those which come from America are better salted than those from the other countries before mentioned; their destination being the tanneries of Rouen and its vicinity.

Bones and crushed bones.—Imports: 1883, 19 tons: Place of export, La Plata. Exports: 1883, 1,206 tons; 1877, 1,081 tons. Destination: England.

The bones which come into Rouen are from South America, on their way to Paris, where they are converted into charcoal for the sugar refineries. The bones and crushed bones sent from Rouen to England come from the interior.

Wood and timber.—The importation of wood through the port of Rouen, has assumed considerable dimensions, as may be seen by the table given below, supplied by the officers of the port of Rouen:

	Tons.
In 1877	11,388
In 1878	22,445
In 1879	42,416
In 1880	41,256
In 1881	59,675
In 1882	67,034
In 1883	68,224

The increase which will be noticed since 1881 arises in a great measure from the considerable arrivals of oak from Austria-Hungary, shipped on steamers in the ports of the Adriatic—destination Paris.

It may also be attributed to the fact that many Paris houses buy directly, instead of, as formerly, from importers, and they choose the port of Rouen, which offers great advantages for transit and reshipment of wood to Paris, both by water and railway. And the port has in addition been benefited by advantageous juxtaposition of two lines of railway, which improvement, although recent, has already been greatly felt.

Wood in planks.—Norway and Sweden, as a rule, only export spruce. Russia and Prussia export spruce and oak. Canada at present only exports spruce; the United States, pitch pine.

Wood for cross-beams, &c.—The timber used for this purpose is Normadn ash, which has special qualities and can be more easily worked into form than any other. By its nature it can be used for the supports of the hoods of carriages and for shafts. The cost of this wood is $57.90 per cubic meter. It is sent off in covered packages of from eight to ten lengths. The greater part is not exported, but consumed in the interior of France.

Coal.—Coal is the most important element, as regards freight, from the United Kingdom to Rouen. In 1883 the quantity imported from the ports of England, Scotland, and Wales direct through the port of Rouen was 436,202 tons, to which must be added 13,993 delivered by railway. About one-half is consumed by the numerous factories of Rouen and its suburbs and for household purposes. The rest is used in towns nearer Paris, and even in Paris itself. Beyond this quantity, 49,459 tons of coal came to Rouen in the same year from the Pas-de-Calais, the north of France, and Belgium, by railway.

The average rate of freight in 1883 was—

	Per ton.
Newcastle to Rouen	$1 55
Cardiff	1 60
Hull	1 60
Sunderland	1 55
Glasgow	1 60

The cost per steamer or sailing vessel is about the same.

In England the conditions of purchase are: Payment thirty days from bill of lading, discount 2½ per cent.; but most English houses, especially at Newcastle and in Scotland, hold out for payment at thirty days without discount. The wholesale price to manufacturers of the above-mentioned English coal is $3.85 per ton. French coal is sold here at about $4.15.

Made-up goods (canvas, sacks, packing cloth.)—Exportation: 1883, 213 tons. Destination, Algeria.

This canvas, specially adapted to making sacks for holding grain, &c., though bought at, and sent off from, Rouen, is most of it manufactured in the department of the Somme, and is sent to Algiers specially via Havre and Marseilles.

Two hundred and thirteen tons is the exact figure, direct from the port of Rouen, but this quantity is only a small part of what Rouen houses actually exported; adding to it the goods which come along the Seine to be shipped finally at Havre, more than 1,000 tons can be safely reckoned.

Boots and shoes.—Importation, 14 tons; exportation, indirect.

The manufacture of boots and shoes, &c., is an important industry in this consular district. It comprises every description from the wooden shoe to the patent-leather dress boot.

Made-up linen.—Exports, uncertain. Destination, French colonies, Antilles, all South America.

Under this head of made-up linen is understood men's shirts of all descriptions, and they are made of all sorts of stuff, and in every color, white cotton cambric, calico, &c., together with all kinds of fancy designs. All these tissues are manufactured, colored, printed, or prepared in the department of the Seine-Inférieure, where they are of considerable importance.

They are made in different sizes and qualities from the highest to the lowest. The styles are different and comprise all the sorts demanded by the buyer.

The price of shirts demanded varies from 80 cents to $1.80 by the dozen. It requires 30 to 36 meters (1 meter is equal to 3 feet 3¼ inches) according to width, at a cost of 16 cents per meter, to make a dozen of these shirts.

The shirts are encased in boxes which cost on an average 15 cents; they are then put in wooden boxes, and sometimes iron; the wooden boxes cost $3.60, and the iron boxes $6. The purchase of the material and the manufacture of the shirts are made by the intermediary of merchants, and they are called commissioners. The expenses of commission, &c., are estimated at 3 per cent. Sales are made at 30 days, with a discount of 3 per cent. The manufacture of shirts was formerly on a large scale at Rouen, but since the war of 1870 the export sales are nearly all made at Paris. It is, therefore, difficult to estimate exactly the amount of the production at Rouen.

Webbing.—Direct exportation: 1883, 225 tons; 1876, 105 tons. Destination: Germany, England, Denmark.

This is one of the most important manufactures in this district. Two large factories, employing about 700 men each, supply the export trade, which embraces all the varieties, for England and America. Terms: 3 per cent. commission; 30 days, 10 per cent. discount.

Grapes for manufacture of wine.—Importation: 1883, 3,371 tons. Places of export: Spain, Turkey.

Dried grapes—raisins.—Importation: 1883, 35 tons. Places of export: Spain, Turkey. This fruit is used for dessert.

Oil seeds.—Importation: 1883, 2,214 tons. Places of export: India, and coast of Africa.

Fruit and seeds of an oleaginous nature are some of the most important elements of freight of this port. They find their way to the numerous oil factories and soap-boilers, which latter industry has of late years been carried on to some extent at Rouen.

Grain.—Imports: Wheat, oats, corn, tares, flour, seeds for sowing, rice, maize. Exports: Rye, flour, barley.

Wheat—corn.—Importation: 1883, 29,425 tons; 1877, 4,525 tons. Places of export: England, Algeria, Italy, America, Australia, India, Russia.

The quantities imported vary considerably from year to year, according to the French harvest. The improvement in the navigation of the Seine which permits large vessels to enter the port of Rouen facilitates the import of grain from America, Russia, Australia, and every other country in the world, and some foreign grains thought highly of by millers can now be sent direct to the port of Rouen.

Conditions of sale: Prompt cash, ½ per cent. discount; brokerage, ½ per cent.; commission, 10 cents.

Oats.—Importation: 1883, 104,988 tons; 1877, 13,681 tons. Places of export: Russia, Switzerland, Germany, Low Countries, England, United States.

As will be seen by the figures, the importation of oats has assumed

considerable proportions. They are subject to the same conditions as corn with regard to the French harvest and respecting all charges, except that there is no discount.

Rye.—Export: 1883, 6,881 tons: 1877, 13,264 tons. Destination: Denmark, England, Norway, Germany, the Low Countries. All conditions same as for corn.

Barley.—Exportation: 1883, 2,958 tons; 1877, 23 tons. Destination: England.

In 1883 the exports increased a little, and there are years when large quantities are sent to England and Holland. Brokerage, ½ per cent.; payment without discount.

Fodder.—Exportation: 1,011 tons.

If fodder could be reduced in bulk, large exports could be made; and it would be very desirable to have mechanical appliances that could effect such reduction of bulk, but in this respect things are in a very primitive condition.

Oil-cake.—Exportation: 1883, 1,259 tons.

Tares.—Importation: 1883, 4,589 tons; 1876, 2,225 tons. Places of export: Germany, England.

This importation has increased of late years. There is little or no export business. Brokerage, ½ per cent.; no discount; commission of transit, 19 cents per ton.

Seed for sowing.—Importations: 1883, 554 tons; 1876, 210 tons. Places of export: England, Germany, America. Exports: 1883, 1,010 tons.

The importation of these seeds is of little importance. The largest quantities arrive from America.

Rice.—Imports: 1883, 36,841 tons; 1876, 791 tons. Places of export: Germany, the Low Countries, England, Italy, India.

Imports are now direct to Rouen in large quantities via the Seine.

Flour.—Imports: 1883, 4,544 tons; 1876, 300 tons; place of export, Hungary. Exports: 1883, 585 tons. Destination, England.

In 1883 there was a sensible increase in the imports; the exports amount to little. What has been said respecting corn and wheat refers to flour.

In years of scarcity in France the port of Rouen is admirably situated for the reception of foreign grain; in years of plenty, on the contrary, it may be sent there from all parts of the interior either by train or by the economical route of canals for export.

Maize.—Imports: 1883, 49,639 tons; 1877, 5,509 tons. Places of export: Turkey, United States.

America has supplied the port of Rouen during the year 1883. Maize is often imported from Russia, sometimes from Egypt and Morocco. A great deal of it is consumed by the distilleries of the vicinity. But farmers are beginning to buy it, both for feeding horses and for sowing. The results are so satisfactory that a large and speedy increase may be anticipated.

Oils.—Imports: Olive oil, cocoanut oil, petroleum, naphtha, palm oil, linseed oil, colza.

Olive oil.—Imports from all sources: 1,612 tons. There are three sorts of this oil, known as superfine, common, and train oil. The last two are exclusively used for dressing wood, oiling machines, and in dyeing

Colza.—Imports: 1876, 242 tons. Places of export: Germany, Belgium.

This importation varies, varying with the state of the harvest in France.

Linseed.—Imports: 1883, 600 tons. Places of export: England, Germany.

Palm oil.—Imports: 1883, 58 tons. Place of export: England.

Palm and cocoanut oils are not a source of much commerce at Rouen.

Cocoanut oil.—Imports: 1883, 39 tons.

Petroleum and naphtha.—Imports: 1883, 8,793 tons; 1877, 7,600 tons. Places of export: New York, Philadelphia, Baltimore.

Terms of sale: Thirty days, net, or cash and ½ per cent.; brokerage, ½ per cent. A Government order prohibits vessels loaded with petroleum from entering the interior of the port of Rouen; the place of unloading is 3 kilometers below the port, which prevents the reshipment by railway, so that all the considerable reshipments are made by canals, &c.

Cost of transport from Rouen to Paris, $1.54 per ton.

Crude metals.—The only business in crude metals at Rouen is importation; there is no export trade. Little is done in buying and selling except pig-iron and tin, and that only in small quantities. Indeed, there is no metal market, properly speaking. The copper, lead, tin, and zinc imported by the port of Rouen are reshipped either for the foundries in the vicinity or to Paris or the interior. Consignee pays all charges of commission, freight, &c.

Lead, in pigs.—Imports: 1883, 4,558 tons; 1876, 800 tons. Places of export: England, Spain.

Copper, in ingots and sheets.—Imports: 1883, 5,539 tons; 1876, 2,347 tons. Places of export: England, Spain, Belgium, Germany. Exports: 1883, 2,111 tons.

Zinc.—Imports: 1883, 1,350 tons; 1876, 980 tons. Place of export, Belgium. Exports: 1883, 1,174 tons.

Tin, in ingots and pigs.—Imports: 1883, 148 tons. Places of export: England, Holland.

Iron and steel.—Imports: 1883, 1,534 tons; 1877, 770 tons. Places of export: Sweden, England.

The Swedish iron arriving at the port of Rouen is for the most part sent to Paris.

Engines, machines, boilers, &c.—Exports: 1883, 550 tons.

Pig-iron.—Imports: 1883, 1,187 tons. Place of export: Scotland, Glasgow.

The freight from Glasgow to Rouen is $3 per ton.

MINERALS AND QUARRIED GOODS.

Pyrites of iron and copper.—Imports: 3,000 tons. Principally from Spain.

Plumbago.—Imports: 70 to 80 tons. From England, Ceylon; principally from London and Newcastle.

Alabaster.—Imports: 1883, 120 tons; 1876, 50 tons. From Livournia.

Marble, rough in blocks.—Imports: 1883, 7 tons. From Livournia. Exports: 840 tons.

Plaster of Paris.—Imports: 1883, 1,016 tons. Exports: 1883, 20,221 tons; 1877, 12,336 tons. Destination: England, Portugal, Scandinavia.

Fire-proof clay for potteries, &c.—Exports: 1883, 989 tons. Destination: Spain, Scandinavia, Italy, England.

That sent to Spain, Scandinavia, Italy, and sometimes England, is sent especially from the port of Rouen. That destined for America and Russia is sent by rail to be embarked at other French ports.

ALIMENTARY PRODUCTS.

Cheese.—Importation: 1883, 74 tons. Places of export: Low Countries, England, Germany.

Cheese arrives at Rouen in smaller quantities than formerly; the railways have taken a good deal of the water traffic.

Dried vegetables.—Importation: 1883, 10,199 tons; 1877, 2,267 tons. Places of export: Italy, America, Vendée (France).

The dried vegetables which come into Rouen vary in quantity according to the harvest. Thus in 1876 only 318 tons came into port.

Figs.—Imports: 500 tons. Places of export: Portugal; on rare occasions, Turkey.

Oranges.—Imports: 900 tons. Place of export: Spain (generally Seville).

Coffee.—Imports: 948 tons. Places of export: Low Countries, England, French seaports.

Although the importation is not direct from the places of production, it is of great importance to the port of Rouen. The merchants receive their goods either in Europe, principally England and the Low Countries, or from the French seaports.

Native fruit (fresh).—Fruit, such as cherries, plums, apples, and pears, come from Paris and different parts of the Seine-Inférieure. They are reshipped to England, and all of them are grown in the district of Rouen or places on the line of rail between Paris and Rouen.

Potatoes.—Exports: 1883, 4,055 tons. Destination: England.

There is little or no import trade.

Starch.—Imports: 500 tons. Places of export: England, Germany, Hungary.

Refined sugar.—Imports: 1883, 620 tons. Exports: 1883, 18,638 tons. Destination: England, Sweden, Norway.

Refined sugars are an important item in the outward freights from the port of Rouen.

Sea biscuits.—Imports: 1883, 70 tons. Exports: 1883, 42 tons.

Those exported are made chiefly at Eu (Seine-Inférieure).

MISCELLANEOUS.

Dye-woods.—Imports: 5,554 tons. Places of export: England, Brazil, India, Chili, Mexico, Hayti, Honduras, New Granada.

These woods are used in the process of dyeing and for essences. The black wood from Hayti is most used.

Resin.—Importation, 259 tons. Places of export: America, Bordeaux, and Bayonne.

Gum.—Importation, uncertain. Exported from Senegal, Egypt.

Chloride of lime.—Imports, 848 tons. Exported from England.

Arsenic.—Imports, 866 tons. Exported from England.

The port of Rouen offers more economical means for the importation of this article than any other, and for its forwarding to Paris, where it is always sent.

Sulphur.—Imports, 652 tons. Exported from Italy and Sicily.

TEXTILE FABRICS.

Raw cotton.—Imports: 1883, 2,722 tons. Exported from the United States, India via England.

The direct importations of cotton through the port of Rouen have only lately acquired a certain development.

Cotton thread.—Imports: 1883, 1,688 tons. Place of export: Manchester.

Cotton tissues.—These are bought in Manchester. They include calico, prints, glaces, &c.

Woolen tissues.—Imports: 1883, 1,414 tons; 1876, 556 tons. Places of export: England, Belgium.

Jute.—Imports: 1883, 362 tons. Exports: 1883, 213 tons. Exported from India via London.

Part of the jutes which arrived at Rouen by sea and constituted an important element of freight, was carried away from this port by the co-operation of the railways, in their tariffs, raising the price of transport from Rouen to the places where the factories are situated, thus forcing the importers to employ another method of transport.

Rags and tow.—Exportation: 1883, 1,312 tons. Destination: Bordeaux, England, United States.

Old rope.—Importation: Uncertain. From the United Kingdom.

WINE IN CASKS AND BOTTLES.

Imports: 1883, 51,357 tons; 1877, 24,615 tons. Exports: 1883, 720 tons; 1877, 1,535 tons. Destination: England, Russia, Spain.

Wine in casks arriving at Rouen generally comes from the ports of Spain, Portugal, and Italy, *en route* for Paris. It seems that these importations should assume considerable dimensions.

BRANDIES AND ALCOHOL.

Imports: 1883, brandy, 67 tons. Places of export: Bordeaux, La Rochelle, Rochefort, La Flotte, &c. Imports (alcohol, rum, Geneva, &c.): 1883, 282 tons; 1877, 54 tons. Places of export: Holland, Germany.

MISCELLANEOUS.

Quercitron.—Imports: 6 tons. Places of export: England, America. It comes from Philadelphia in sacks of 110.23 pounds.

Sumac.—Places of export: Sicily and Marseilles.

It comes in bales of 440 pounds, and is used for coloring in printing. Cost of transport from Marseilles to Rouen, $1 for 220 pounds. Since a direct route from Sicily to Rouen has been opened up from Palermo and Messina, it has been brought to Rouen direct. It is in a great measure in transit for Paris.

Colophene.—Colophene is used for bleaching raw material and the manufacture of paper. The prices vary from $2 to $4 the 100 kilograms (220 pounds), with 3 per cent. discount.

GENERAL SUMMARY.

From this glance at the leading articles of the imports and exports at this port, the importance of the grain trade is plainly perceived, while the tables of imports and exports of American products show how little falls to the share of the United States. The removal of the embargo on this port by the produce exchanges of the several cities before mentioned will do much to restore this trade. Although Indian corn has become indispensable as horse and cattle food, and for distillation, yet as an article of domestic food it is scarcely known. A systematized effort to bring into prominence its adaptability for culinary purposes would re-

commend it to this most practical and cautious nation. The grain and cotton and petroleum must continue to be the principal imports from the United States. The other trade is limited at present to sewing-machines, agricultural implements, scales, and a few canned articles, such as salmon, &c.; it could be increased in every line of labor-saving machine in which American inventive genius excels, or the manufacture of which on an extensive scale defies competition. The exports from France to the United States have not materially changed, while the materials for cloaks of Roubaix and the cloths of Elbeuf and Beauvais have met with a powerful, if not wholly successful, rival in the articles manufactured at Berlin, Aix-la-Chapelle, and other cities of the Rhine and Lusace. Calais seems to stand unrivaled for its laces, which supply the home trade, and are extensively exported.

At this point a sample room of the various American articles of acknowledged superiority and utility would open up in a short time a large and profitable trade.

CHAS. P. WILLIAMS,
Consul.

UNITED STATES CONSULATE,
Rouen, France, September, 1883.

THE COAL MINES OF FRANCE.

REPORT BY CONSUL WILLIAMS, OF ROUEN.

The mines of Lens and Douvrin are, for the most part, situated in the division of Béthune, department of Pas-de-Calais, in about the center of the basin of Pas-de-Calais, extending from the basin of the department of the North, which joins the coal basins of Belgium and the Ruhr. They comprise the greater part of the neighboring cantons (districts) of Cambrin and Vimy.*

The shape of the grant of Lens is that of an oblong square, stretching from north to south, widening a little toward the north. At the northwest is the grant of Douvrin, since acquired by the company of Lens. The entire length of the property, from the northwest to its terminus at the southeast, is 7½ miles; average width about 4 miles. These grants were severally made between the years 1850 and 1875, and their extent limited to 15,000 acres. They extend over 18 communes, among which is Lens, with a population of over 10,000 persons. The others contain an equal amount, and the majority of the people live by mining. The number of persons thus supported is, probably, about 15,000.

ORGANIZATION OF THE COMPANY.

In 1848 the founders of this society organized a company to search for coal in the neighborhood of Lens. Coal having been discovered at Annay, towards the end of the following year, this association was permanently established by the founders, and a grant of lands was obtained in January, 1850. Under the original charter, this company was established with a capital stock of 3,000,000 francs, divided into 3,000 shares of 1,000 francs each; each share entitling its holder to one three-thousandth of all the real and personal property. Of this, 300 francs per share was paid in, and the balance of 700 francs was

* In France the department is divided into arrondissements, then into cantons, the canton into communes.

subject to payment at the option of the executive committee. Each shareholder was held for 1,000 francs, and nothing more. The company was obliged to retain a reserve fund of 500,000 francs.

These grants of Lens and Douvrin are fair specimens of the value of coal in the mines of the department of the North; as such, I descended into and explored them. Much, therefore, of the following information is the result of my personal observation.

RICHNESS OF THE COAL.

These grants as worked in the department of the North give, by chemical analysis, from 8 to 40 per cent. of volatile matter. The beds, rich in volatile matter, are principally met with in the southern section of the grant; the poor and medium are found in the more northern belt; the beds called "smith's" coals are found in the middle of the section. The working of the mines, and explorations by ditching, and boring, and tunneling, exposed, in 1877, forty-two veins, varying from 1½ to 8½ feet in thickness. This coal formation is covered throughout its whole formation with a wet, chalky earth, varying in depth from 375 to 500 feet. One of the chief difficulties in mining this coal lies in piercing this watery bed. This work, begun with a simple windlass, is, as soon as the well is sufficiently sunk, carried on with the most powerful machinery. As great a force as 1,000 horse-power at a single shaft is sometimes employed to remove this earth and water, and for many months. An amount equal to 66,000 cubic yards is raised in twenty-four hours.

The annexed table gives not only the product of these mines of Lens and Douvrin from 1853 to 1883, but also the quantities taken from all the other mines situated in the arrondissement of the Pas-de-Calais.

Year.	Lens mines.	Other mines of the basin.	Percentage per ton of each.	Year.	Lens mines.	Other mines of the basin.	Percentage per ton of each.
	Tons.	*Tons.*			*Tons.*	*Tons.*	
1853	231	61,668	0.37	1869	455,083	1,695,449	26.76
1854	19,921	103,327	0.97	1870	503,365	1,760,277	28.60
1855	41,547	162,833	25.51	1871	482,018	2,140,039	22.52
1856	68,311	290,762	23.55	1872	583,385	2,096,773	27.77
1857	79,001	442,920	17.83	1873	654,022	2,953,203	21.80
1858	85,491	511,370	16.71	1874	657,904	2,299,553	28.56
1859	85,051	553,693	15.36	1875	725,636	2,265,657	31.50
1860	111,830	647,232	17.29	1876	691,562	2,685,827	.....
1861	183,153	907,377	20.12	1777	622,360	2,812,685	.....
1862	210,769	1,135,812	18.40	1878	656,699	3,172,940	.....
1863	240,370	1,026,385	23.42	1879	765,454	3,380,421	.....
1864	262,034	1,266,853	22.74	1880	858,722	3,921,918	.....
1865	296,195	1,254,150	23.62	1881	944,423	4,319,565	.....
1866	389,078	1,409,167	27.79	1882	1,003,847	4,656,547	.....
1867	401,344	1,388,933	28.89	1883	1,129,695	4,978,164	.....
1868	429,920	1,946,875	22.09	1884*	1,227,645	.....	.....

* To July 31.

Lift per pit, 1883–1884.

Pit.	Tons.	Workmen.
Number 1	122,957	503
Number 2	199,780	638
Number 3	238,244	890
Number 4	230,447	652
Number 5	375,168	1,054
Number 6	44,112	295
Number 7	16,942	207
Total	1,227,645	4,339

Work people employed, 1883–1884: At the bottom, 3,741; outside the pits, 1,138; total, 4,879.

On the 31st July, 1884, the society owned 1,770 houses, with 8,636 occupants, and 2,637 work people; 308 houses in course of building, making 2,078 houses.

LABORERS OF THE MINES.

The mining company of Lens employed, during the year 1875, in every branch of its works: In the mines, 2,816; on the surface, 897; total, 3,713 workmen.

The number of workmen was, in 1874, 3,303; in 1873, 2,765; in 1872, 2,464; 1871, 2,356; 1870, 2,104.

Seventeen horses were engaged in the mine which I descended, drawing cars on the various tracks more than 800 feet below the surface, of which there were more than 8 miles, nearly all of which distance was strongly arched with heavy brick walls. These horses come to the surface about twice a year. The ventilating machinery, with its huge engines and towers, seemed to be complete, as did all the mechanical arrangements. Every precaution and possible appliance which modern ingenuity has devised for mining purposes appeared to be utilized. Whatever might apply to other mines as to inferiority of equipment, it certainly could not to those which I visited. The work was performed with the greatest expedition, method, and apparent economy, and with satisfactory results proportioned to the labor and expense of working. In this mine 934 men were employed daily.

The houses are not uniform in style, and are generally grouped together; some of them are, however, isolated. Generally they form streets called "carons" in the special phraseology of miners. Although the price of land is high, and the cost of labor and material used in the construction of houses has advanced, the company adheres to its original rate of rent. This varies, according to location, from 87 cents, 97 cents, $1.07, to $1.17 per month. This sum does not represent anything like their true value. The meanest hovel in the city rents for $1.93 per month, and houses such as the miners inhabit would bring $5 per month. They are healthy, conveniently arranged, and are built of solid material; the greater part of them have an annex, forming an inclosure, containing laundry, rabbit coops, pig-pen, &c. They all front upon a street, and have a small garden upon the opposite side of that street.

To encourage the workmen to take care of their houses and gardens, numerous prizes are distributed annually to the most deserving. At the feast of Sainte Barbe (the patron saint of housekeeping), and at that of Lens (patron of gardens), the company gave in 1875 $550 in prizes. Other prizes are given at other holidays to gymnasts, archers, &c.

A band has been formed, entirely at the company's expense, and other bands, formed partially of miners, are liberally assisted. In building 1,342 houses, as completed in 1875, the company expended $747,685. The loss entailed from this outlay cannot be computed at less than $24,000 yearly. Besides the gardens allotted to its workmen, the company rents lands to large families desirous of providing the requirements of the household. This excess of land is, on an average, about 233 square meters to each family.

WORKMEN'S WAGES.

The wages vary, according to the strength and skill of those employed.

There are several classes of workmen; the miners proper, or those who are at work below, are employed in digging coal, excavating, digging

wells. A special class, picked from the strongest and most intelligent, are put on the more difficult work, and, of course, receive a higher pay. Diggers are paid by the piece, or according to agreement. In piece-work the price is so much per square meter of coal brought to the surface. It (the price) varies according to the thickness and quality of the vein, being lower when the working is easy, and naturally higher when the labor becomes more arduous. Sometimes in hurried work, that is to say, in cases where great expedition is required, the work is put up to auction among the workmen of that particular class, and the lowest tender (all the men being supposed to be equally skillful) gets the job. This manner is, however, very rare, and is resorted to only, as before stated, in cases of emergency—except in opening fresh veins, digging wells, and blasting, when it invariably obtains. The wages actually paid to miners are as follows: Miners working by the piece gain $1.02 to $1.12 per day; wages are 97 cents, or 5 francs. The wages of miners average 65 to 75 francs per fortnight. The workmen in confined places can, on account of short hours allowed, gain two to four days on their time in a fortnight. Workmen who, on account of age or injuries, cannot engage in the hard work of mining, find remunerative wages in the various other sorts of work about the mines, repairing the gallery support, &c., at which they earn 3½ francs to 4½, according to age and strength and skill; the oldest are employed to replace the tramways, and gain 3¼ francs per day. The assistants to miners are paid as follows: Those who load at the end of the mines are paid 3½ francs, those at the lifts 4 francs. Screening workmen by the task gain 3.75 francs. Machinists' paid partly by the task and partly on the basis of the quantity extracted, gain from 4 to 5¼ francs per day; stokers, 3¾ francs; lamp distributors, 3 francs; strong girls, who lift out the large pieces of coal, 4½ francs. Those who pick the stones from the coal, 1½ to 2 francs; wood sawyers by the task, 4 francs. Raw miners first employed in embankment at 3¼ francs per day.

Workmen employed in pushing the cars along the galleries where the horses cannot go, generally work by the piece and are paid according to distance and gain about 3¼ francs per day. Young children and those who are too weak to assist in this work do the light work of train guards, &c., and gain 1½ to 2 francs per day.

Women are not allowed to descend into these mines, but the daughters of miners are employed assorting, screening, washing coal, clearing away ashes, and discharging brick.

Peculiar patented iron cars transport the trucks on a railway to the canal of Deule, a distance of 5 miles, where docks capable of shipping 5,000 tons per day have been built. The shipment takes place over moderately inclined planes, upon which the coal slides from the car of which the side is raised by the aid of the locomotive. In this manner a large boat can be loaded in 40 minutes with the aid of three men. The various mines are all intersected by substantial roads, laid with Bessemer steel rails, and in communication with the railways; they are within two hours of the large manufacturing towns of Lille and Roubaix. The company have workshops for the repair of locomotives and other machinery required in the mines, together with a store of tools sufficient for any emergency which might arise. The offices of administration, general agent, superintendents, &c., are well arranged and fully equipped.

All the mines in working are shored up with miles of substantial brick arches, or oak posts, and are provided with double truck tramways for conveying the coal to the elevator.

SCHOOLS.

In all the communes where the workmen of the mines of Lens reside, the children of both sexes are provided with schools at the expense of the company. A nursery for the care of young children is also provided in the same manner. In the city of Lens, provision is also made for the instruction of adults. Schools for the accommodation of 800 children, heated and gas lit, are furnished by this company. Their school-houses have cost $20,000. The cost of church was $14,000. The whole number of schools and asylums of this company is 56, or was in 1877, and the attendants numbered 3,087.

MEDICAL SERVICE.

The physicians, ten in number, besides druggists, give their services to sick miners and their families, besides furnishing such diet as may be judged invigorating.

When a workman is killed in the mines, his widow receives a pension of 192 francs annually. The children receive 5 francs per month for the boys, and 4 francs for the girls.

The company reserves from its profits the sum of 1½ per cent. to defray these expenses. Coal is gratuitously furnished to widows and orphans. Each workman, the father of a family, receives for his use 18½ bushels of coal per month, which is increased in case of sickness.

A gratuity of 10 francs is given to each workman's child to assist them in their outfit for their first communion. In 1875 this sum amounted to 2,950 francs. During the war of 1870–'71 the company gave to the families of their married work people engaged in the war aid to the extent of 10 cents per day to the wife and 5 cents to each child. Many of the families of experienced miners received more. The reserves, called out annually for a month, have the same favor extended to their families by the company.

BENEFIT SOCIETY.

The company have even under their protection a benefit or "friendly" society.

To this fund all work people have to subscribe from the time of their engagement. The company gave $5,790 in 1875, and each subsequent year have increased their donation. The employés on their part pay, fortnightly, 29 cents for those earning 57 cents and upwards per day; 24 for those earning 48 to 57 cents per day; 15 cents for those earning from 29 to 38 cents; 10 cents for those who only get 29 cents or less per day. All fines imposed by the company go to this fund; in 1875 it amounted to $1,937. Workmen receiving an injury get a pay according to how much they have been willing to subscribe. So with a man when he falls sick.

Besides this allowance, out of the funds are paid: Medicine, wine, meat, soup, midwifery, and the undertaker's charges. There is a pension also for incurables. There was a deficit in 1875 of some $750. The expenditure may be thus classified: Fees to doctors, cost of medicine, allowance in time of sickness or accident, funeral charges, and sundries.

In 1875 the sum of $28,564 was distributed in this manner.

It is estimated that about 14,000 persons are benefited by the fund, towards which the company subscribes about a fourth of the money.

It is recognized and appreciated by the workmen and their families that this benefit society is really a great boon; and the more such undertakings are encouraged, better must it always be for both masters and men. This is strikingly illustrated by the successful results attained to in all the large commercial undertakings in the north of France.

CHAS. P. WILLIAMS,
Consul.

UNITED STATES CONSULATE,
Rouen, September 18, 1884.

THE GINSENG TRADE IN CHINA.

REPORT BY MINISTER YOUNG, TRANSMITTING REPORTS FROM THE SEVERAL CONSULATES OF THE UNITED STATES IN CHINA ON THE GINSENG TRADE IN THAT EMPIRE.

As a further reference to your dispatch dated March 22, 1884, I have the honor to inclose reports from the various consulates upon the ginseng trade in China.

I have no report from Mr. Bandinel, the vice-consul at New Chwang, or Mr. Stevens, consul at Ningpo.* With these exceptions the Department will find the record complete.

Mr. C. F. Moore, a gentleman resident for a long time in Peking, and attached to the legation in a clerical capacity, has been good enough to favor me with his observations upon the subject, as you will find in inclosure herewith following.

JNO. RUSSELL YOUNG,
Minister.

UNITED STATES LEGATION,
Peking, September 3, 1884.

GINSENG AND ITS USES.

Mr. Moore to Mr. Young.

PEKING, *June* 23, 1884.

SIR: It occurred to me when writing copies of your circular calling for information concerning the root ginseng, that a few remarks from an outside pen, and from a different point of view, might prove useful, and so excuse any seeming liberty I may be thought to be assuming in thus writing you.

Natives of this province of Chihli, and especially Pekingese, or, as they like to style themselves, men of Shuntien fu, have the implicit faith of our Scotch and Welsh nurses in fairies, dragons, and the wonderful; and nothing of reason would, I feel sure, shake their belief that the prized wild root jên shên, found in the thickly wooded valleys of the mountainous province of Quantung, bearing east by north of them, is not spiritual, capable of volition, and endowed with the power of concealing itself to escape capture.

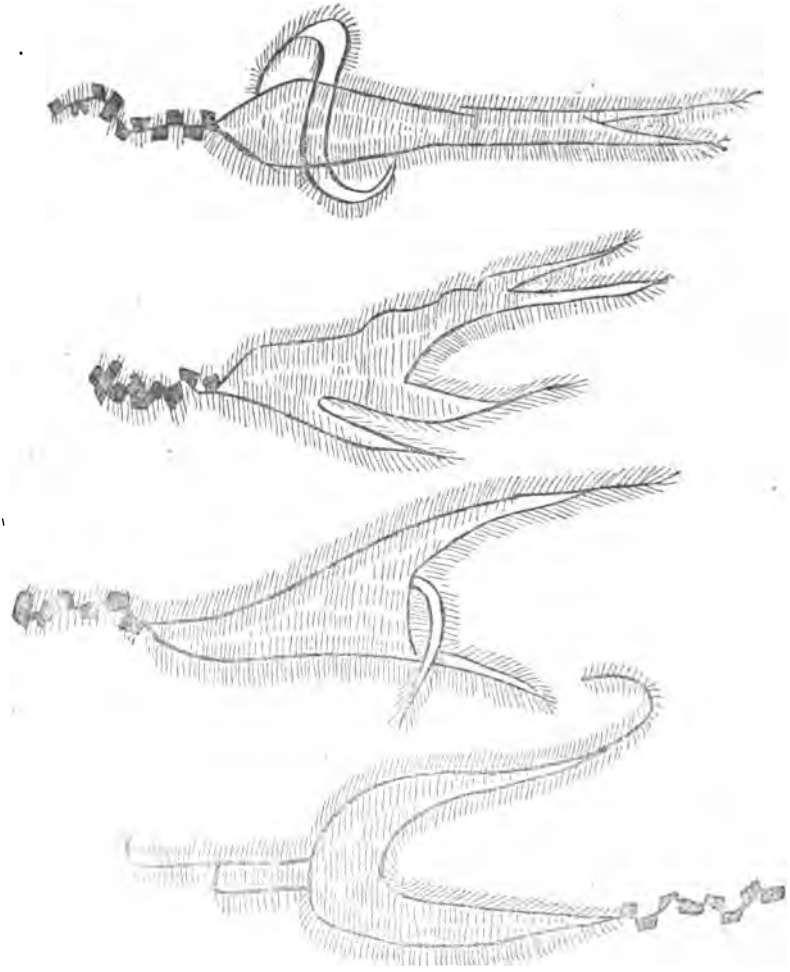
Beneficent Heaven also extends protection and has appointed as its warders the lang, hu, pao, and chung—wolf, tiger, leopard, and snake—who watch over its safety in these gloomy wooded glens.

It is said that some two years back, as Her Imperial Majesty the Empress Regent Hsi tai ho lay sick nearly unto death, a few of her trusty friends went to Quantung in search of this medicinal root, which was not obtained until after many dangers had been encountered and overcome, and which drug most happily led to the Empress's recovery.

* These reports have been received and are herewith published.

I have heard Chinese decried as wanting in chivalry and as pusillanimous to a great degree, but an experience of some twenty-four years shows me they are not only courageous, but possessed of unflinching endurance of pain, and perseverance in attaining an end; and if it be considered how deeply their feelings—I might say even their very souls—are imbued with a belief in spiritual agencies, and of the unknown (and being unknown therefore the more awful) terrors that protect this root, its quest then becomes elevated and dignified, and bears fitting comparison with those delightful stories immortalized by our poet Tennyson, of brave deeds done by the chivalrous knights who encircled good king Arthur's Round Table, and left to search for the San Greal. The brave and trusty retainers of a Chinese Empress who sought a spiritual medicinal drug, guarded, as was undoubtedly believed, by beasts of prey and other more terrible foes, in order to restore to health their sovereign mistress, can well be placed in line with the glorious achievements of a Sir Lancelot or a Galahad.

Quantung jên shên, being for imperial use only, its search is undertaken by many under Government auspices, who are furnished with explicit directions and rations



for a fortnight. If allowed the use of a sporting phrase, the many are found "to be nowhere"—unsuccessful victims to wild animals who guard the shrine, or who perish with fatigue or succumb to famine. A few, however, who, like Sir Galahad, have natures chaste and pure, are permitted at night to see the spiritual essence or halo it puts forth, and which marks the spot where the heavenly and life-sustaining root

has its home. As day dawns the treasure is unearthed; if heavy and in one piece, weighing three to four ounces, his luck (tsao hno) is great, such a piece selling readily for 200 taels of silver. The yearly finding is not great, limited, I am told, to two or three catties. If old, its value becomes intensified.

The age is easily followed and counted by the knobs or notches which form and jut from that part which is styled the head; each knot or notch taking a year to form. Its figure is said to bear so great a resemblance to man that Chinese botanists at once dubbed it with the same character, man. I had desired to have beautified these notes with photographic representations of some fine specimens seen; but their value to the owner, or some superstition connected therewith, was too great apparently to permit the risk of their being in care of a foreigner. The drawings, undermade, will give a tolerably exact idea of shape; the size averaged four inches, and three-quarters of an inch in diameter, color being a very pale yellow. They were inclosed in a handsome glass case, the specimens resting on a deep yellow silk ground.

When freshly unearthed it is covered with hair-like filaments, coarser than the appendages seen on a caterpillar. As a general thing, four pieces make up a tael in weight, which sells for 8 to 10 taels of silver.

Some hundred years since the province of Shansi had a high reputation for its wild Jên Shên. Some is still found in the prefecture of Su Wan Fu; but a good deal is now "the cultivated." Its price is about 8 cents per tael weight.

Corean Jên Shên, the cultivated, is improved by merchants, and does not form an item in an imperial present. Some 300 peculs pass annually into Peking. The best brings its weight in silver, inferior quality as low as 22 cents the tael weight. The price depends greatly on its appearance, freedom of holes, brittleness, age, and other true or fanciful qualities.

Its uses in cases of debility and pulmonary diseases are great, though its chief value as a medicine is said to consist in its power of sustaining life for a short period of time. When life flickers to its close and the curtain of death is unfurling, this heaven-found medicine gives the patient so much strength, recuperates his failing energies so greatly, that he finds time to settle his property on relations or friends, and in doing so gains that contentment of mind which enables him to view calmly the wave of oblivion, ever rolling onward, and that effaces for ever any faint traces he may have made on the seashore of his loved country.

I remain, sir, &c.,

CHAS. F. MOORE.

Mr. Young to the consuls.

PEKING, *June* 3, 1884.

I am instructed by the Department of State to ascertain the general market value of prepared ginseng root in China, the principal use made of it, and any facts bearing upon the internal trade in that article.

You will therefore please furnish me at your early convenience with all the information bearing upon this subject which may be within your reach, and, in particular, upon the following points:

1. As to the supply and demand.
2. The difference between the cultivated and the wild roots as to market value and demand; and,
3. How the demand for the wild American roots compares with the wild native roots in the markets of China.

GINSENG TRADE IN SHANGHAI AND IN ALL CHINA.

REPORT OF VICE-CONSUL-GENERAL CHESHIRE.

As a response to dispatch of June 3, calling upon me to prepare a report upon prepared ginseng root in China, its principal use, and more particularly the supply and demand, the difference between the cultivated and wild roots as to market value, and how the demand for American roots compares with native roots in the market of China, I have the honor to submit the following report, which I trust will meet the requirements of the honorable Secretary of State.

There are various kinds of ginseng used in China, namely, the Corean, Japanese, American, and native, or the kind produced in Man-

churia and Pechihli. All the ginseng collected in this Empire is said to be imperial property, and a quantity is annually sold to faithful subjects who are willing to pay almost its weight in gold for a remedy believed to have great virtue.

Ginseng is divided into two classes, clarified and crude. The former is rendered translucent by steaming, skinning, and drying the fresh roots; the latter is the natural dried root. The roots are about the size and length of a man's little finger, and when chewed have a mucilaginous sweetness; if good they will snap when broken. Dr. Smith, in his work on Chinese Materia Medica, says:

> The trade in this drug [ginseng] is a specialty. Great care is required to preserve choice specimens from the effects of damp and the attacks of worms, to which it is liable. This drug is prepared as an extract, as a decoction, in silver vessels as a rule. Its effects are apparently those of an alterative tonic stimulant, carminative and demulcent nature. It is prescribed in almost every description of disease of a severe character, with a few exceptions, but with many reservations as to the stage of the disease in which it may be administered with the greatest benefit and safety.

The Chinese consider the native drug the best, Corean ranks second, and then American and Japanese. I am informed that the Chinese prefer that which comes from their own weeds even when they can see no difference between it and the imported article.

As to the consumption of ginseng, this would be almost impossible to ascertain, as well as to give an accurate figure of the quantity imported, as no doubt a great deal passes through the native customs, the statistics of which office are not published. The following figures will show the quantity and value of the drug imported into China through the foreign customs from foreign countries during the years 1882 and 1883:

	Haikwan taels.
In 1882—4,731.27 piculs	763,065
In 1883—3,499.38 piculs	738,543

The value of ginseng as sold in the Shanghai market may be gathered from the following statistics prepared by me from information gathered from native sources:

PRICES OF NATIVE GINSENG.

Weight of each piece:	Per tael.
4 candareens to 1 mace	26
1 mace to 2 mace	35
2 mace to 3 mace	45
3½ mace to 4 mace	80
4½ mace to 5 mace	180
5½ mace to 6 mace	250
6½ mace to 7 mace	250, 300, and 400

7½ mace (extraordinary size, priceless) perhaps 500 taels, perhaps 1,000 taels.

PRICE OF COREAN GINSENG.

One catty of 20 pieces each, 16 or 17 taels; 1 catty of 30 pieces each, 9 taels; 1 catty of 40 pieces each, 6 or 7 taels.

American ginseng costs from $2 to $5 per catty.

Japanese ginseng costs from 4 mace (0.40 taels) to 5.5 mace (0.55 taels) per catty. A special kind, called old mountain, ranges from 3 taels to 8 taels in price.

AMERICAN GINSENG.

American ginseng is principally, if not entirely, shipped to Hong-Kong, and from the statement below it will be observed that the im-

port of crude and clarified root from 1860 to 1883 inclusive, amounts to about 10,021,000 pounds, or the average of about 417,500 pounds per annum. Half of this comes direct to native importers and others through agents in New York and San Francisco and the other half to an American firm from Western America. The root is sorted previous to shipment to China, and comprises various grades differing from each other in value from $50 to $100 per picul. The average price for crude (which forms the bulk of shipments), according to the following classifications, are, superior large selected root, $450; large and selected, $380; good ordinary, $300; medium good, $270; fair, $250.

Some very choice large roots have brought $600 to $700, and "extra choicest selected large and heavy" sometimes commands fancy prices up to $1,000 per picul.

Estimated imports of American ginseng to Hong-Kong, via San Francisco and England.

Year.	Crude and clarified.	Year.	Crude and clarified.	Year.	Crude and clarified.
	Pounds.		*Pounds.*		*Pounds.*
1860	375,990	1868	310,312	1876	529,200
1861	633,814	1869	320,000	1877	446,213
1862	388,594	1870	456,000	1878	533,660
1863	515,174	1871	315,000	1879	446,266
1864	407,000	1872	293,000	1880	348,800
1865	560,027	1873	335,691	1881	304,800
1866	423,146	1874	424,000	1882	420,000
1867	410,653	1875	475,707	1883	357,600

F. D. CHESHIRE,
Vice-Consul-General, in charge.

CONSULATE-GENERAL OF THE UNITED STATES,
Shanghai, July 27, 1884.

GINSENG AND ITS USES IN CHINA.

REPORT BY CONSUL SHEPARD, OF HANKOW.

In response to dispatch asking for information relating to ginseng and the trade therein, I have the honor to report:

I have investigated the subject to the best of my ability with the means at command, but regret that I have been able to learn so little of material value. Few persons appear to know about it more than that the root is largely used in the Empire as a stomachic or tonic, but, singularly enough, its value seems largely to depend, in the minds of the people, more upon the form of the radix than upon its inherent qualities.

The name "Ginseng," I am told by Chinese scholars, signifies the "Man Plant," on account of the shape of the root, which is bifurcated, somewhat resembling the thighs and legs of a man. This is also recorded by botanists, and is given, as probably the derivation of the name, in Webster. The nearer the peculiar form approaches to perfection of resemblance to the human frame the greater the value. I am reliably informed of one single root, weighing not over 3 pounds (2 cat-

ties) that was sold for 1,000 Haikwan taels, or about $1,500 in gold. Of course its intrinsic value could not have been greatly different from other roots of the species, but its shape was esteemed to be very perfect.

USES.

The use of the root is universal throughout the Empire. Nearly every drug store of the natives has displayed upon the door-posts the announcement that "Ginseng and young deers' horns pills" are an article of ready supply. The latter component is also esteemed valuable as a tonic, and the two combined are a *sine qua non*. They are first reduced to powder, and then mixed in the required proportions. The ginseng is believed to have special effect in strengthening the genital organs, and this idea alone would give it great value in the opinion of the Chinese as well as other nations of the East. The faith in it is universal among them, whatever the fact may be; and the highest mandarins, as well as the lowest coolies, use it.

THE SOURCES OF SUPPLY.

The sources of supply to China are fourfold, viz, from the northern parts of the Empire, from Corea, from Japan, and from the United States. Its market value ranges all the way from $2 to $200 per pound. It may be classified, and, I think, is so at the customs, quite nearly in the following order:

1. "Imperial ginseng," so called because it is raised or gathered under imperial protection in the parks or hunting-grounds, where it is kept free from the profanation of the vulgar herd. This variety ranges from $40 to $200 per pound, and is largely taken up by the wealthy classes in Peking and vicinity, as far as I can learn. It is fine in its appearance, quite in the desired form, and, of course, very scarce in trade.

2. The next best quality is the Corean product, which is traded between merchants of the two countries on the borders of either, or landed on the coast in the vicinity of Shan-hai-kwan, in the province of Chihli. This quality was marketable at from $15 to $35 per pound.

3. The third grade, called native ginseng, is grown in China, near the borders of Corea. This is mostly used to adulterate the Corean article, and is valued at from $1 to $10 per pound. It is not produced in excess of the demand.

4. American ginseng is generally regarded as next in classification, but from all I can learn of it I think it rather belongs to the third class, and the last as fourth. When crude it averages about $2 per pound; when clarified from $4 to $6, and when reclarified from $6 to $8 per pound. What the clarifying may be I have no absolute information. Some maintain it is only washing and clearing the roots from earth and fibers, and some that it is a process of steeping with honey, which is only done with the best selected specimens. The amount entered at this port in 1883 was 1,399 pounds crude, at a valuation of $2,884 in gold, and of clarified 134,940 pounds entered, at $294,340.20. The import here for the quarter ending March 31, 1884, was at least 50 per cent. larger than for the corresponding period of the previous year.

5. The last and poorest quality is the Japanese ginseng, which, like the native product, is used for the adulteration of the Corean supply and other better grades. Its value is correspondent to the native article, *i. e.*, from $1 to $10 per pound.

CULTIVATION OF THE PLANT.

I do not learn that the plant is "cultivated," in the proper sense of the word. Its growth is "protected" in some localities, but I fail to find that nature is interfered with or aided in its production. It may be so, but from such information as I have I think it is certainly not cultivated in China, but can give no positive or reliable information on the point.

DEMAND AND SUPPLY.

I am unable to discuss the demand and supply except in a very general way. That demand is universal in China there can be no doubt. The steady sales, as well as consenting testimony, prove this. As to supply, it seems to me evident that it is limited, from the exorbitant prices the drug commands. Naturally, one would conclude that a wild root gathered in the forests of Minnesota, where its intrinsic value cannot be more than a few cents per pound, could not be produced co-equal with demand, when its transfer to China changes the value in such enormous percentage, yielding on an average from $2 to $3 per pound. A more extensive supply must reduce the cost, reasoning from analogy.

The comparative demand between the American roots and the wild native roots in the markets of China is at least partially solved by the comparative prices of the two, and they average about the same. But in this jurisdiction scarcely any other but the American appears in the market. It is certainly long since any other has passed through the customs. Much is smuggled in various ways, but even that seems to be the American article, by way of Hong-Kong.

All the ginseng coming to this locality, and to this market, is either from Hong-Kong or Shanghai. The former port is the entry port of the American exportation, and the latter of the Japanese supply. Hence my investigation is made under difficulties, as all the better qualities of the article appear to be consumed in the north. Inquiries in Canton and Shanghai, Tien-Tsin and New Chwang may produce fuller and more accurate details than I can give. However, I have gladly done the best I could, as I need not assure you it is always my pleasure as well as duty to do.

ISAAC F. SHEPARD,
Consul.

UNITED STATES CONSULATE,
Hankow, July 19, 1884.

GINSENG IN CHINA.

REPORT BY CONSUL STEVENS, OF NINGPO.

Ginseng, a most celebrated root in China, is the root of an araliaceous plant, belonging to a distinct species, the *Panax ginseng.* It differs from the American ginseng, the latter being the product of *Panax quinquefolium.* This closely resembles the Chinese root, and is largely used in China. The drug root of the Chinese is to them what cinchona is to Europeans, and it comes from localities in Shinking and the province of Pechihli.

Formerly two classes of ginseng were recognized, one coming from Manchuria, now represented by that coming from Shinking, and the

other from Shangtung in Shansi. The plant of the latter drug is cultivated in Corea or Pechihli to meet the great demand for it, the Shinking drug, from its high value, being used only by the Imperial family. Corean ginseng ranks next after Manchurian ginseng, and is the most important article of export from Corea. This is, however, often adulterated with Japanese ginseng, while the latter is also adulterated with the roots of other species.

The form of ginseng generally resembles a miniature human hand, the stem being of the size of a man's little finger, with some two to four finger-like rootlets. They are yellowish and semi-transparent, firm, brittle to some extent, and of a sweet and slightly bitter taste.

Regarding Manchurian ginseng, Commissioner Macpherson, in one of his able reports on the trade of New Chwang, made the following remarks: "Ginseng loves moisture, and the densest of the forest, which cling to the slopes of the hills; it nestles in recesses to which the rays of the sun have never penetrated, and which are as pathless now as in the days when the Golden Tartars were dwelling in and cultivating the plain. The genuine Manchurian ginseng consists of a stem from which the leaves spring, of a center root, and of two roots branching off at the same point from each side of the center root. The stem somewhat resembles the head and neck, and the side roots the shoulders and arms, of a man; the main root represents the body, and a fork, which the main root frequently forms, the legs. The Chinese, with not an ungraceful feeling, believe that a plant which thus expands into the human form, amidst thickets and jungle on which the foot of man has never trod, must be intended to alleviate the sufferings of the human race. Its precious qualities are increased and intensified by age, and a plant is of no great value until it has been growing and gathering strength for at least an ordinary lifetime. The age and consequently the value of a plant are ascertained by a careful examination of the upper portions of the center and side roots. These portions should be covered with rings, and the thicker and more numerous the rings the greater the age. The value of ginseng in no way depends on its length, thickness, or color. I, myself, have seen a delicate root weighing but six mace, which cost 50 taels. The upper portion of the root also possesses the greatest healing power. The stem which appears above ground, on the other hand, ought not to be eaten, as it is supposed to be baneful rather than beneficial."

Corean ginseng is found wild amongst the hills, and takes more than thirty years to arrive at perfection. The root can be used when it has been in the ground a less number of years, but it is not so valuable as that of mature age. The other kinds of ginseng, known as first and second quality Corean, are a special branch of culture. Only well-to-do people can afford to set apart the ground for its cultivation, and to devote to it the time which it requires. The usual period allowed for the root to attain its full growth is from five to six years; it is then dug up, washed, and dried in a pan over a fire, and after the skin has been scraped away it is ready for the market. Once every year a small red flower is put forth, the seed from which is carefully preserved and sown the following year. The root thrives best in a sandy soil.

The root of the American ginseng is fleshy, spindle-shaped, generally about two or three inches long, as large as a man's little finger, and terminates by several slender fibers or rootlets. It has a slight aromatic taste, somewhat similar to that of licorice root.

The trade in ginseng is a specialty. Great care is required to preserve choice specimens from the effects of damp, and the attack of

worms, to which the drug is liable. It is generally prepared as an extract or as a decoction.

The varieties of ginseng that are used in China are the Manchurian or Shinking, the wild and cultivated Corean, the American, the Japanese, and the wild native. Of these the Manchurian ginseng, from its scarcity and high value, is little used, except by the Imperial family and very wealthy people. The Corean ginseng is said to possess the same medicinal properties, and is used to take its place. It is much cheaper, and large quantities of it are found in Corea and some parts of Northern China.

The relative quantities of the various kinds of ginseng that are imported and consumed are: American and Japanese ginseng, in about equal quantities, first; cultivated Corean, known as first and second quality, next; native last. During the years, 1881, 1882, and 1883 the relative quantities of ginseng imported into the port of Ningpo have been as follows: in 1881, American ginseng, 14,329 pounds; Japanese, 7,578 pounds; native, 7,024 pounds. In 1882, American ginseng, 12,816 pounds; Japanese, 26,311 pounds; native, 2,347 pounds, and Corean, 639 pounds. In 1883, American ginseng, 10,711 pounds; Japanese, 33,234 pounds; native, 7,760 pounds, and Corean, 677 pounds.

The above figures show, of course, only the quantities that passed through the foreign customs, but there is no doubt that large quantities pass through the native custom-houses, besides what were smuggled into the port, so that it is impossible to give exact figures.

For the year 1878, the total value of all kinds of ginseng that passed through the customs was more than $161,865, a sum rendering it one of the chief items of import.

The Japan second quality was the most important kind, being valued at about $68,510. The quantity imported increased within the year from 28,400 pounds to 34,800 pounds. Almost equally important was the American clarified. The other kinds were the first quality Japan, the native, and the Corean.

During the year 1879, for the port of Ningpo, ginseng of all kinds together represented a value of $105,975.54, of which the American clarified represented nearly one half, and the second quality of Japan about four-tenths. The first named fell off a little in the quantity imported, and the Japan gained. The value of the latter, however, decreased by about one-half, and this probably accounted for their increase in the quantity imported.

The wild roots of the American ginseng, imported as the American clarified, compare most favorably in the markets of China with the Japanese, Corean, and native roots. They command a better figure than either the Japanese or native ginseng, though they do not come quite up to the Corean root in value. The native root is not of much importance either as an article of trade, or as a remedial agent.

The reason why the American and Japanese ginseng are used more than the Corean is because while the latter is used only as a tonic and stimulant by persons suffering from nervous debility and kindred troubles, the former are resorted to as a most effective remedy in all forms of fevers, in convalescence from febrile affections, and in many other bodily ailments. Another reason for their greater consumption is that they are much cheaper than Corean or Manchurian ginseng.

The average price of the Manchurian or Imperial ginseng is from $50 to $200 per ounce; that of the American ginseng, in large pieces, from 30 cents to 60 cents per ounce; in smaller pieces from 15 cents to 30 cents.

Since the opening of Corea to trade and commerce, the value of Corean ginseng has greatly decreased. Its average price per ounce is at present

from 70 cents to $2. The general price per ounce of Japanese ginseng is 25 cents. The native ginseng, as grown in various parts of China, is of little importance as a drug, its average price per ounce being about 3 or 4 cents.

The effects of the Manchurian and Corean ginseng are apparently those of an alterative, tonic, stimulant, and carminative nature, while the American and Japanese ginseng are used as demulcent and refrigerent agents. They are prescribed in almost all diseases of a severe character, with a few exceptions, but with much care as to the stage of the disease in which it may be administered with the greatest benefit and safety. All forms of debility, spermatorrhœa, the asthenic hemorrhages, the various forms of severe dyspepsia, the persistent vomiting of pregnant women, malarious affections of a chronic character, the typhoid stages of fevers, convalescence from febrile affections, are occasions in which the Chinese resort to this drug. From many instances in which the administration of this drug seems to have prolonged life that is almost extinct, it is supposed that this far-famed drug has at least some properties of a sustaining nature; on the other hand, there are many who maintain that the virtues ascribed to the various kinds of ginseng by the Chinese are only fanciful, but that having been such a favorite among them for so long, they have come to place implicit faith in its healing qualities. The leaves of the ginseng shrubs also are sold, and are said to be emetic and expectorant in their effects.

In conclusion, I beg to submit that the American clarified ginseng is having great competition in the markets of China on account of the large importations of the Japan second quality, and unless our merchants can afford to import their roots at figures to meet the times, and unless they take good care that these roots do not deteriorate in quality, I fear American ginseng will decrease in demand, and, possibly, in due time, may be entirely displaced by importations from Japan.

I also beg to suggest that it would be advantageous for our merchants to obtain specimens of all the varieties of ginseng, especially the Manchurian and Corean, and see if they can be imitated or grown in some parts of the United States. Any such efforts, I think, will be rewarded with great pecuniary returns.

EDWIN STEVENS,
Consul.

UNITED STATES CONSULATE,
Ningpo, September, 1884.

GINSENG IN CHINA.

REPORT BY VICE-CONSUL BANDINEL, OF NEW CHWANG.

Corean ginseng is commonly called official ginseng, as it forms one of the articles of tribute sent annually from the court of Corea to that of China.

The annual import from Corea is estimated at about 500 piculs, of which probably 300 piculs are exported in foreign and native craft to other provinces of China and to Hong-Kong, rather more than 100 piculs go by land to Peking and elsewhere, and rather less than 100 piculs are consumed in these provinces.

The price of the best is about 12 taels per catty; of the inferior 2 to 3 taels per catty.

The best is uniform in size, color, and quality, and averages 20 roots to the catty. The inferior is very irregular in the above respects, and averages 30 roots to the catty. Both qualities are packed in 5-catty boxes.

The use of Corean ginseng in these provinces is confined to the wealthy, and they never use it unless they are ill.

This ginseng is said to be collected on the hills during the 7th and 8th months (Chinese reckoning); the gatherers return into the plains during the 9th month, or not more than a fortnight later.

The chief place of import is the Corean gate, near the frontiers of Corea and China, whence, after paying duty and *lekin* (on weight not on value), it for the most part comes to this port as a center of distribution.

Formerly the brokers used to receive 3 per cent. from the seller and 2 per cent. from the buyer, but recently the buying brokerage has been done away with.

Wild ginseng is called pre-eminently jenshên. It is sought for on mountains where the grass is taller than a man. The searchers, equipped with sticks, beat the grass on every side until they find a patch of ground bare of grass. They then conclude there is ginseng elow, and at once proceed to dig for it.

The comparatively young and shapeless roots are not very valuable, but an old root resembling the body of a man with head and limbs is supposed to be one or two hundred years old, and fetches an enormous price—from 200 to 400 taels per ounce weight.

The invigorating powers of the old wild root are firmly believed in by the Chinese, who say it will prolong life for some days if administered when the patient is at the last gasp, and that it will cause the circulation and respiration to continue after life (consciousness?) has deserted the body. Per contra, they say the result is somewhat fatal if taken by a person in good health. It is therefore only taken by the very infirm or very sick, and then only if recommended by their physician.

Wild ginseng is popularly supposed to have the power of traveling from place to place underground like a living animal.

Manchurian or native ginseng cultivated is commonly called tsao shên grass, or perhaps weed ginseng, to show its inferiority. In former years the production was about 20 per cent. larger than at present, but recently the greater profits and quicker returns obtained by growers of the poppy have caused a reduction of the area devoted to the cultivation of ginseng.

The present annual yield is said to be about 2,800 piculs. Of this about 2,300 piculs are exported in native and foreign craft; from 300 to 400 piculs find their way overland to Peking and elsewhere, the balance going into local use. The price of the best is about one tael per catty; of the inferior 20 to 30 candareens per catty.

A catty of the best contains about 20 roots, of the inferior perhaps 50 to 60 roots. It is sold in 7-catty, 8-catty, and 10-catty boxes.

This ginseng is cultivated in the northern and eastern parts of Shinking, in Kirin, Tsilsihar, and near the Amoor. It grows best in sandy soil. The seed is sown in spring, the roots are taken up in autumn, stored in a room the temperature of which is above freezing point, and covered with dry earth. Next spring they are planted out, and again lifted and stored in autumn, and this process is annually repeated until the ginseng (sometimes in the fourth year, sometimes in the fifth) has attained its full growth.

When full grown it is taken for sale to the city of Kirin, at which place there is a general rendezvous of buyers.

The purchasers have to pay duty and *lekin* at Kirin and are then free to take the ginseng where they will.

It is cured by steaming in a steaming-basket. If intended for use in the south, sugar is added; if for use in the north, no sugar.

In the north it is rarely taken except in cases of actual sickness, as the soil and climate are dry and cool, and there is comparatively little malaria. A few of the wealthy people occasionally take an infusion as a precautionary measure during the winter. This is prepared by putting the root with some water in a small, earthenware, covered pot, placing the same in a larger earthenware pot, also covered, partly full of water, and then setting it on the fire. When the water in the large pot boils, the infusion in the small pot is ready for use.

It is said to be more extensively used by Chinese in the south, owing to the heat and moisture of their soil and climate, being infused with most of their drinks, and taken even with some of their solid food, as a precautionary measure against sickness. Its qualities are said to be invigorating and warming, though not to such an extent as the Corean and the wild ginseng.

American ginseng is here called yangshên—foreign ginseng.

The annual import, never large, has fallen off of late years to about half a picul.

It is considered inferior to Corean ginseng, but superior to the cultivated root, and sells at rather more than two taels per catty.

It is used medicinally by those who imagine, or are advised by their physician, that Corean ginseng is too strong, and Manchurian ginseng not strong enough, for their case. It is not used as a beverage (like the Manchurian) when infused.

The following table of number of piculs of each kind exported hence during the last five years is compiled from the customs returns:

Kind.	1879.	1880.	1881.	1882.	1883.
Native	2,306.20	2,533.68	2,199.22	2,078.06	2,112.11
Corean	166.70	179.25	194.84	93.60	214.40
Wild	1.56	2.95	1.64	3.41	1.34

The decrease of Corean ginseng in 1882 was caused by the imposition of a higher duty at the Corean gate. This was subsequently repealed, and probably some of the ginseng left over from 1882 in Corea was exported the following year and helped to swell the figures for 1883.

J. J. FREDERICK BANDINEL,
Vice-Consul.

UNITED STATES CONSULATE,
New Chwang, September 11, 1884.

GINSENG TRADE OF AMOY.

REPORT BY CONSUL GOLDSBOROUGH.

I have now the honor to submit the information which I have been able to procure, bearing upon the subject therein referred to.

I may state that there are several kinds of ginseng used in this district, and as follows:

1. The Manchurian ginseng, the supply of which from the north is very small here, while its demand is considerable, costs variably, *i. e.*,

from $100 to $1,000 per catty (1⅓ pounds). It is highly valued as one of the best medicines in China, and is used for that purpose solely.

2. The Corean ginseng being next in quality and value to the former has always been more in demand by reason of its cost, *i. e.*, from $10 to $20 per catty. Lately, however, its supply from the north has been so great that several piculs (133⅓ pounds) are now remaining in stock without a good market. This, ordinarily, is used for medicine only.

In connection with this, there is a kind which is commonly known as "imitation," and imported from Tien-Tsin. It only costs from $1 to $2 per catty. This is used by the very poor for medicine.

3. The white Yuen Seng is also a product of Tien-Tsin district. While it was highly valued in the thirteenth century (the Yuen or Mongol dynasty) as the best of medicines, it now costs here from $1 to $1.50 per catty. This, too, is used chiefly by the poor.

4. The Tang Seng, which comes from the province of Kiang-See, is used for medicine, and as an ordinary beverage as well. Its average cost per picul is $15.

5. The Yang Seng, or foreign ginseng, which is claimed to come from America via Hong-Kong, is much demanded here. The best quality costs from $7 to $8 per catty; the middling, $4 to $5, and the inferior, about $1. The demand as well as the supply for this, I am pleased to state, is greater here than for the native.

6. The Tai Keh Seng, which is well known as a produce of Japan, costs from $1 to $1.50 per catty. This is used somewhat, according to the fancy of the native doctor.

With reference to "the cultivated and the wild roots," I am informed that the latter is in greater demand and brings better prices.

I regret that I am unable to state quantities used and facts bearing upon the internal trade in this article.

W. ELWELL GOLDSBOROUGH,
Consul.

UNITED STATES CONSULATE,
Amoy, July 5, 1884.

GINSENG TRADE OF CANTON.

REPORT BY CONSUL SEYMOUR.

Ginseng is almost exclusively dealt in by natives in China, where it is regarded as an indispensable remedy for the greater portion of the ills or diseases to which human creatures are heirs, and is extensively used for treatment of diseases in Japan, but is not considered in Europe or America as of any value or efficacy for remedial purposes.

The cultivation of ginseng has not been successfully accomplished.

The wild root is found in Manchuria, Northern China, Japan, and North America. It is also found in the country near the Himalayas in Northern India, and in Corea.

The ginseng produced in Manchuria or Northern China commands a preference over all other kinds; and, when carefully selected and perfectly clarified, sells for its weight in gold.

By reference to the various sources of information, it appears the prices of the several kinds of ginseng fluctuate, according to the supply, which is sometimes greatly in excess of the actual demand.

When this excessive supply occurs, surplus stocks have no speculative value. A great reduction in prices, or a substitution of an article of inferior quality, will not increase the consumption of ginseng, or attract buyers of it. A certain quantity, regulated by the condition of the public health, will be used at any cost; as its efficacy is believed to be incomparably superior to that of any other commodity in the Chinese pharmacopœia, of which ginseng is the most celebrated of "nostrums."

By a careful inspection of the lists of valuations used by the examiners of dutiable imports and exports at the Canton custom-house, and also the trade and customs returns and reports of the various ports in China, as well as the annual revenue and trade statistics of the imperial customs department of China for several years past, I have ascertained the classification of ginseng; the prices on which duties have been levied; and, approximately, the quantities of native and foreign ginseng on which duties have been levied, or official returns made, during many years.

The native or Manchurian ginseng root takes preference and commands first place on the list, the best quality, designated as "superior man-shaped ginseng," having a valuation of about $5 per ounce, although some inferior qualities are valued at about $1 per pound.

The Corean ginseng root, designated as first and second qualities, follows at a valuation of $9 to $12 per pound. Its market value exceeds those figures, but cannot be definitely stated.

The Japan ginseng root, of the first quality, and reclarified at Hankow, in China, has a dutiable valuation of from 60 cents to $1 per pound, an inferior quality being rated at from 30 to 50 cents.

The Canton custom-house classification for American ginseng has a wide range of valuations, commencing with $4 per pound for "clarified"; 75 cents per pound for "crude," and 66⅔ cents for inferior.

Chinese weights, measures, and money have been reduced to American standards in the foregoing statements.

Upon inquiries among various foreigners, I learn the nominal market valuations of American ginseng quoted at from $2 to $3 per pound; but no one could be induced to offer half the amounts of money in advance of actual needs.

Many years ago the profits on American ginseng imported into China were so great that an over-supply nearly put an end to the traffic; but those who are carrying stocks of American ginseng at Hong-Kong, waiting for a demand, estimate the value at about $2 per pound, a choice article being worth from $3 to $4 per pound.

As to the quantity annually imported, the average for the past twenty years would not be far from 400,000 pounds.

In some recent years the quantity imported has reached about 500,000 pounds, and valued at custom-house lists at from $600,000 to $1,300,000.

As evidence of fluctuations in values and qualities, it may be stated that the larger sum of $1,300,000 was the valuation of 400,000 pounds imported in 1879, and the smaller sum of $600,000 was the valuation of nearly half a million of pounds in 1880.

The importation of American ginseng into the port of Canton seems to have diminished during the past ten years from 80,000 pounds in 1874 to 41,700 pounds in 1880, and to 25,500 pounds in 1883.

It should be stated that the duty levied in China on ginseng is 4½ cents per pound on "American crude," and 6 cents per pound on "American clarified."

This is the best report I can make on ginseng at a time when everybody is occupied with the existing crisis in regard to peace or war between France and China..

CHARLES SEYMOUR,
Consul.

UNITED STATES CONSULATE,
Canton, July 29, 1884.

GINSENG TRADE OF CHEFOO.

REPORT BY CONSUL PLATT.

I have had the honor to receive dispatches calling for information on the subject of ginseng, and I beg to express regret for the delay in furnishing it.

The supplies of ginseng (*Panax quinquefolium*), both wild and cultivated, are derived from Chinese Manchuria, chiefly from Corea, and as a rule reach this market by an overland route, for which reason it is not definitely known what is the total importation, but competent authority places it at a comparatively low figure, yet quite equal to the demands of the hardy agriculturists comprising the bulk of the population in this consular district, who, not being addicted to opium smoking and other vices tending to physical deterioration, have no need to resort to ginseng for the tonic, stimulating, and aphrodisiac virtues ascribed to it by the native physicians.

The total maritime import, as given by the imperial customs, for the year 1883, amounted to 9,006 pounds, divided as follows:

Ginseng:	
Corean, first quality, 226,673 pounds	$40,344 40
Native, 4,691 pounds	2,339 52
American, clarified, 1,991 pounds	3,191 92

The export from here for the same period amounted to 2,214 pounds, leaving a balance of 6,792 pounds for home consumption.

Dealers in ginseng inform me that the market value of this drug is about $25 *per ounce* for the wild root, and 50 cents *per pound* for that which is cultivated.

There is a very slight demand for the American production.

A. R. PLATT,
Consul.

UNITED STATES CONSULATE,
Cheefoo, August 26, 1884.

GINSENG TRADE OF CHIN KIANG.

REPORT BY VICE-CONSUL BERGHOLZ.

In compliance with the instructions in reference to the ginseng root, I have the honor to make the following report:

The importation of the ginseng root into this consular district is but slight. In 1882 the importation of American ginseng amounted to only 9.76 piculs, valued at 5,466 taels; of Japanese, 17.32 piculs, valued at 5,993 taels; of Chinese, 33.24 piculs, valued at 1,759 taels. In 1883 the importation was as follows:

Kind.	Quantity.	Value.
	Piculs.	*Taels.*
American	18.85	9,274
Japanese	15.80	2,370
Chinese	39.07	1,655
Total	73.72	13,299

A small quantity of Corean ginseng is smuggled into Chin Kiang by Corean pedlers; it is, however, of an inferior quality, often adulterated with Japanese ginseng. The amount of ginseng carried inland is so small that it is not mentioned in the customs reports.

There is no direct trade in American ginseng. It is imported from Hong-Kong or Shanghai, and the supply exceeds the demand.

The quality of ginseng imported from America and Japan is the "prepared" or clarified, and retails at 6 taels a catty. The "crude" is entirely Chinese, and is sold at 266 taels the catty. There is no demand for the wild roots, either American or Japanese.

No ginseng whatever is cultivated in this district, but comes entirely from Fungtienfu in the colonial dependency of Shinking in Manchuria, and from Tsun, hwachau, in Pechihli. The provinces of Fukien, Kiangnan, and Shause, formerly yielded ginseng, but the ginseng of trade is from Pechihli, the Shinking drug being almost entirely an imperial monopoly.

A medical missionary writing upon the principal use made of it says:

The drug is prepared as an extract, or as a decoction, in silver vessels as a rule. Its effects are apparently those of an alterative, tonic, stimulant, carminative, and demulcent nature. It is prescribed in almost every description of disease of a severe character, with few exceptions, but with many reservations as to the stage of the disease in which it may be administered with the greatest benefit and safety. All forms of debility, spermatorrhea, the asthenic hemorrhages, the various forms of severe dyspepsia, the persistent vomiting of pregnant women, malarious affections of a character severe and chronic, the typhoid stages of fevers—especially of an epidemic character, are occasions on which the Chinese resort to this drug. Several cases in which life would seem to have been prolonged by the taking of doses of this drug, so as to allow of intelligent disposition of property, indicate that some positive efficacy of a sustaining character does really exist in this species of ivywort. The leaves are solid in bundles of the green, fragrant, excellently-preserved foliage of the shrub. They are said to be emetic and expectorant in their effects.

LEO BERGHOLZ,
Vice-Consul in charge.

UNITED STATES CONSULATE,
Chin Kiang, July 9, 1884.

GINSENG TRADE OF FOO-CHOW.

REPORT BY CONSUL WINGATE.

In reply to dispatch of 3d June, requesting information regarding ginseng, I have the honor to report as follows:

From the customs returns I find that the importation of American ginseng into Foo-Chow, during the last ten years, has been as follows:

Year.	Quantity.	Value.
	Piculs.	
1874	62.38	$27,267 00
1875	101.11	49,754 00
1876	59.54	22,903 76
1877	61.72	26,121 52
1878	65.53	17,089 76
1879	84.17	18,640 16
1880	69.49	30,738 72
1881	61.70	31,911 04
1882	65.92	37,225 92
1883	64.28	33,322 72
Total	695.84	294,974 60

The total net importation of all sorts of ginseng into Foo-Chow during the year 1883, as given by the customs returns, is as follows:

Variety.	Quantity.	Value.
	Piculs.	
American, clarified	16.01	$5,385 60
American, crude	47.31	27,418 96
Total American	63.32	32,804 56
Corean, first quality	15.00	255 68
Roots, refuse and broken	46.38	19,960 72
Japanese	144.49	10,614 80

All the American ginseng imported in 1883 came here via Hong-Kong. In reply to my inquiries at the native customs I learned that no ginseng is imported in native junks, except some little brought by passengers for private use, so the returns of the customs above given essentially cover all the ginseng imported into Foo-Chow.

In reducing the value of ginseng as stated by the customs to those given above, 1 Haikwan tael = $1.36 United States gold.

I instructed Mr. Interpreter Cowles to obtain from Chinese sources specific information upon your several points, and also any other facts of interest. Mr. Cowles's report is so interesting that I here quote it in full, believing that I cannot better answer your interrogatories:

The real ginseng root, Chinese say, grows among the immortals; honest druggists own they haven't it, but offer earth-grown substitutes to fill prescriptions. The genuine takes on the human form, two lobes hanging down from the upper part of the root and forming the arms, the lower part forking to form the legs.

Chinese class ginseng as—

1. "*Primum mobile*" *or* "*Ultimate principle.*"—This is the Japanese and strongest, costing as follows: From fresh plantations: 37 roots to the pound, $1.01 per pound; 75 roots to the pound, 51 cents per pound. From older plantations: 37 roots to the pound, $4.08 per pound; 45 roots to the pound, $3.92 per pound; 52 roots to the pound, $3.82 per pound; and 135 to 150 roots to the pound, 61 cents per pound.

2. *Corean.*—This is not so strong. Those unused to ginseng can take this without danger. Price: Real Corean, called true, 23 roots to the pound, $14 per pound; that from Tien-Tsin, called second, 23 roots to the pound, $1.01 per pound.

3. *Foreign.*—From foreign countries generally. Doctors say this really does give some vigor: 37 roots to the pound, $7.47 per pound; 600 and upwards, $2.03.

4. *Local native.*—Produced in Chang Lo, Ningteh, and Loynen districts, Foo-Chow prefecture; 7 cents per pound.

These are wild, hawked by peddlers, a drug in its own country, cheap, and therefore thought nothing worth, and so in small demand. Of this, that reddish tinged is best; this, on a bare market, may bring 20 cents per pound.

Ginseng used to be shown at the back of drug-stores as a precious and hoarded drug. Small shops had sometimes to put off customers till they could procure from larger shops the roots wanted. So much more now comes in from Japan and over sea that it is now displayed in quantity in front of shops.

Roots long in growing, wrinkled with age and yellow from the natural oil still retained, are the best; the dried-up and pale are worth nothing. Cultivated and large is dear; small is cheap; wild is cheap; foreign is thought to be part cultivated, part wild; American, though, passes generally for cultivated. Japanese and Corean are cultivated; local Foo-Chow is all wild, selling, as per above price-list, at only 7 cents a pound cheaper than American, and in less demand.

Few Chinese here now use Japanese or Corean; fewer still local Foo-Chow; most use foreign. It is the shops, however, rather than the consumers, that distinguish the different kinds.

Roughly, larger shops sell the larger roots; smaller, the smaller, these latter also making up the ends of roots, &c., into pills that one can carry on the person and eat.

Principal use.—Chinese take ginseng to give them vigor; the Chinese "faculty," however, know that it is merely a temporary and factitious stimulant, rice being of more real value for permanently invigorating effect.

The moisture of the body, say Chinese, in whatever form it appears in the various organs, is governed by the veins, and these ginseng tones up, insuring that the wits, &c., shall not be dried up, but all the organs be at their normal state of saturation, permitting one to enjoy a natural flow of spirits. Mandarins, therefore, otherwise jaded from being up before or after hours, and wishing to be at their best, take ginseng to give them command of all their powers for the moment. Rich men, with nothing to think of but their health, &c., use it in the hope that it will insure them a long life. Folks "keeping up appearances" have a cup on brew in the drawing-room to give callers the impression that the means of the family are such as to afford an expensive luxury, so that they may be taken at their own self-set valuation. The sick take it to make the natural moisture reappear in the parched mouth; they may, perhaps, be kept alive a few days longer by taking ginseng. In bad air it fortifies the bowels against the interloping influences that would effect a lodgment and undo them; make the bowels "strong," say the Chinese, and keep things under control, affording time for doctor and relief to reach one instead of one's slipping down and down and going out before the flame can be revived. Families, therefore, buy it at the beginning of the trying summer season, and keep it by them against emergencies.

The rich and officials buy the dear, supposing the dear must have the greatest virtue; the poor buy the cheaper. Doctors rarely prescribe it for themselves, except when sick and really needing it. They rarely prescribe it, either, for the poor. The poor, not used to it, might be killed by an ounce of the best, for it increases the frequency of the expiratory action, cutting off and crowding out the inspiratory before this can be completed; one pants faster and faster and grows hotter till one dies. Those new to the root should take but one-tenth of an ounce; old consumers take one to two ounces.

METHOD OF PREPARATION.

A small china pot with concave cover, but without nozzle, is used. The sliced root with a lump of sugar is put into this pot, boiling water poured on, and on the concave cover shutting in the brew are sprinkled a few grains of rice. This small pot is then set to simmer in an iron cooking pan or skillet of water, the water say reaching half way up the pot. The skillet is also covered. When the grains of rice are steamed through and fit to eat, the ginseng brew inside the pot will also have reached the desired stage. One thus avoids letting the flavor escape in brewing, through repeated openings of the ginseng pot to see if the brew is done. Good ginseng can thus be infused thrice in succession.

Another method of preparation, a sort of flag-root process, is to put three roots into a hot cooking skillet; add a little uncooked glutinous rice and a very little water; stir the roots about till the rice takes from them a yellow color. Then throw away the rice and chop the cooked root into short lengths. Carry some of these upon the person and dissolve a piece in the mouth during an hour or two, when hungry, *en route*, &c., afterwards rejecting the remains. These are the three ways of taking ginseng, pills, confection, and infusion, the latter far the most common.

J. C. A. WINGATE,
Consul.

GINSENG TRADE IN TIEN-TSIN.

REPORT BY CONSUL SMITHERS.

In compliance with the instruction contained in dispatch of June 10, No. 64, asking for information as to the general market value of prepared ginseng root, the principal use made of it, and any facts bearing upon the internal trade in the article, I have the honor to report as follows:

Ginseng is better known and more largely used in the south than here, and goes there chiefly. It comes here, however, a little more than formerly on account of the recent establishment of the Corean embassy, the viceroy having the oversight of Corean diplomacy. Each and all of the Coreans coming to Tien-Tsin, whether officials or menials, bring some ginseng with them, the Chinese officials making no objection. The total amount brought to this jurisdiction does not exceed 300 piculs per annum. Most of it is brought by Corean peddlers, who go about the streets selling it. Chinese peddlers also bring a small amount from Manchuria, but the quality is not so good as the genuine Corean article. All that comes here is the cultivated article, which retails for about 50 cents per ounce. It is used entirely for medicinal purposes, especially for the aged, being a strong stimulant. The high cost of the root renders its demand very limited, as none but the rich can afford to use it. The wild ginseng is far superior to the cultivated, its stimulating qualities and flavor being finer. None of the wild comes here, it being too expensive for even the rich. There is some sold here as "wild," but it is an imposition, being only the best quality of the cultivated article. The wild is valued at about 100 taels per ounce. There is no demand here whatever for the American root, the Chinese pronouncing it almost entirely void of stimulating properties.

E. J. SMITHERS,
Consul.

UNITED STATES CONSULATE,
Tien-Tsin, August 23, 1884.

THE GRASSHOPPER PLAGUE.

REPORT BY CONSUL BIRD, OF LA GUAYRA.

Dr. A. Ernst, a distinguished Venezuelan entomologist, having made some observations upon the migratory grasshopper, from which scourge the country has been suffering for the past two years, a translated copy of a recent letter from him upon the subject is herewith transmitted, in order that any information of value therein contained may not escape the agriculturists of the United States.

[Translation.]

EDITOR OPINION NACIONAL:

About eight days ago Mr. Fermin Baez called my attention to quite a large worm that he had observed in the body of the grasshopper.

We visited together one of his lots on the Guire River, where the grasshoppers were laying their eggs, and where they were in great abundance, as well as the black mosquito (*Scelio famelicus*), of which we have before spoken. On observation we found that the grasshopper had scarcely left its nest in the soil, after having deposited its eggs, when these mosquitoes (hymenoptera) pierced the eggs, depositing within them

their own larvæ. Thus it is seen of how great service is this latter insect in destroying the grasshopper.

We were at first less fortunate in our observations upon the large worm spoken of by my companion, but finally succeeded in finding four grasshoppers, all females, that contained the larvae. In two of them they were somewhat developed, sufficiently at least to distinguish them as the larvæ of diptera. The body is about one centimeter (0.3937 inch) in length, of whitish hue, somewhat conical in form, with two small blackish hooks in the sharp-pointed extremity that serves for the mouth, and with two large black spots in the posterior extreme that serve as the organs of respiration. In these grasshoppers, seemingly perfectly healthy, it was noted that there were very few, though fully developed eggs. In two cases the larvæ had been developed in the cocoon within the body of the grasshoppers, and these cocoons were marked in one of the extremes with the blackish spots above mentioned. I took these two cocoons enveloped in earth to watch the full development of the insect; and to-day, one of them, perfectly developed, proves be a fly that probably pertains to the genus *Tachina*, and is very similar in its general aspect to the common fly.

There can be no doubt that the larva of the diptera contributes to the destruction of the grasshoppers, since it prevents the hatching of the greater part of the eggs, and breeds death within the bodies of the grasshoppers themselves. Yet the destructive effect of the fly does not appear to be great, especially if it is compared with the best known species of its genus.

I found the cocoon of the same species of *Tachina* in a grasshopper brought to me yesterday by my friend Dr. Enrique Manrique, but this grasshopper was also infested with a worm of the class of *los nematelmintos*. Examining the object with care, I found in it fifteen worms of the species *Mermis albicans*, that formed a tangled lump in the region of the second and third abdominal ring. Each of the worms is from 8 to 10 centimeters (3.1496 to 3.9370 inches) in length, and from 3 to 4 millimeters (0.1082 to 0.1576 inch) in thickness. It is of whitish color, smooth surface, and small at the tail end; where, under the microscope, appear three rows of small protuberances. The body contains only a prolonged esophagus, beginning at a mouth that is encircled by six tubercules, scarcely visible, and has no fecal aperture.

The species *Mermis* comprises some very interesting insects on account of the biological phenomena they present. There are several kinds, all of which habitate some time in the bodies of insects, when, having arrived at a given stage of development, they are expelled, and go into the soil without seeking aliment. In this state their sexual organs are matured, and they deposit great quantities of eggs in the soil, from which are hatched parasites that gradually ascend to the shoots and leaves of plants, where they find insects, in whose bodies they enter after having pierced the epidermis, and thus find within all the necessary conditions for their development, deriving nutrition from the grassy substances in the abdominal cavities of the insects.

It is not the first time that the *Mermis albicans* has been found in the body of the grasshopper, since Mr. Riley mentions it among the parasites that attack the grasshopper in the Rocky Mountains of the United States, and Fedschenke has seen a species very similar in the migatory grasshoppers of the Old World.

There are not now sufficient data to estimate even approximately the amount of destruction to grasshoppers caused by this worm; but in any event it is evident that it is an enemy to the grasshopper, and for such reason I have deemed it proper to mention it in our fauna.

WINFIELD S. BIRD,
Consul.

UNITED STATES CONSULATE,
La Guayra, September 10, 1884.

COMMERCIAL AND INDUSTRIAL CONDITIONS IN GERMANY.

REPORT BY COMMERCIAL AGENT SMITH, OF MAYENCE.

GENERAL CONDITIONS.

I have the honor to herewith make my annual report for the year ending August 31, 1884.

According to the reports of the various chambers of commerce of my district published during the past summer, the year 1883–'84 manifested in general an active market, but it was characterized by small profits among the majority of the large industries. Each, however, expressed itself in a different manner on the subject, and of three reports before

me the general conclusions arrived at may be designated as being of the three degress of comparison, good, better, best, namely:

One report says: The almost general progressive improvement in industrial circles, which could be said of the years 1879–82, made no further advance during the past year. Although various branches experienced a development, the general market was a difficult one to deal with, which, while not leading to an extensive limitation of production, had a very injurious effect upon profits, which operated so much the more sensibly, as in the preceding years when business was excellent, the profit did not throughout reach the point to be expected from a good course of trade. The interruption which has taken place in the upward movement upon the industrial domain, by which especially the metal branches and the majority of the mining industries have been affected, was not due to a flattening of the home market, but rather, materially, to a decreased demand from non-European lands, especially from America, whose market, by its great depressions, has influenced to a significant degree the industrial activity of most of the European states.

All industrial states suffer from the unfavorable situation of the world's market which has thus arisen, and indeed, in part, more so than Germany, whose strengthened capacity to compete exhibits itself in the most gratifying manner in many branches.

The second remarks that under the guardianship of peace all industrial activities quietly and firmly moved forward during the past year. An animated market with nominal profits still characterizes the state of the large industries in most branches, but in general, in comparison with former years, has a better feeling been evinced, and the market shown a greater stability.

The third uses this language: In our last report we could state an improvement in the general condition of business during the years 1880 and 1881, and we are gratified to be able to report the same of the years 1882 and 1883. On the other hand, however, a point has been reached in the course of the last year by a few branches of business beyond which, notwithstanding the greatest exertions, they could not get. A number of tokens point to a steady increase of the goods and values employed in trade, such as the advancing figures of the railroad and steamship lines, the enlarging postal and telegraphic business, and the growing export.

The fact is that, although a great deal of complaint is constantly made about competition and over-production, Germany is continually moving forward in industrial and commercial respects, and the condition of her people is becoming daily more favorable.

GRAIN HARVEST.

The grain harvests of 1883 were fair, but the transactions in grain are represented by the chamber of commerce at this place to have been very unprofitable and about as unfavorable as at any time during the last ten years. The grain harvests of 1882 gave an abundance of wheat and rye, but of such poor quality that for some time after being thrashed the grain could not be well used by the millers, who paid high prices for foreign grain rather than mill the moist and inferior home article.

The fruit and potato crops were also somewhat of a failure. In 1883, on the other hand, were the fruit and potato crops magnificent, and the grain harvested much superior to that of the preceding year.

At first wheat showed a tendency to command good prices, but as the reports which soon came in from Russia, America, and India, brought

intelligence of fine yields in those countries prices at once fell, and the foreign product was kept out of the market by the cheap inland. Importations in this vicinity of wheat from the United States and Hungary ceased almost entirely. Of rye the Rhineland never produces a sufficient amount to meet its needs, but has to depend upon the shores of the Baltic and Black Seas and France to supply the deficit.

Oats were poor and barley was very much damaged by rainy weather.

At Mayence, however, the transactions in grain are not so important as at Mannheim, which is a center of trade in the matter. The amount of wheat imported from India in 1883 is reckoned to have been 900,000,000 double centners. The wheat of this country is not regarded by the German millers with great favor, but India is nevertheless looked upon as a land from which much can probably be drawn.

The crops of the present year are reported to be good, and from Russia and the United States comes news of abundant harvests, the result of which has been to lower the price materially of grain.

Concerning clover it is complained that many farmers have been injured by using American seed, which does not seem to be adapted to this climate.

THE VINTAGE.

The result of the vintage in 1883 was what is termed half a harvest, which gave a good average wine. In some quarters a very fine wine was obtained from selected grapes. On the whole the wine is the best that has been cellared for five or six years past. Early in the summer the expectation was that the product of the year would be a remarkably good one, but some unfavorable weather in August and September disappointed to a certain extent the hopes formed. The prospect for a good vintage this fall is said to be at present very favorable, but it is difficult to make calculations on the subject, as a few cold and rainy days or frosty nights during this or the next month can have a marked effect for evil upon the vineyards.

WINE SHIPMENTS TO THE UNITED STATES.

The shipments to the United States during 1883 of wine were very large, especially prior to July 1, when the increased customs duty on this article went into effect.

CONSUMPTION OF RHINE WINE.

The consumption of Rhine wines in Great Britain and Ireland is stated to have largely decreased during the past ten years. Even in Germany there has been, it is said, no decided increase in the amount of native wine drank, as there is a lack of pure drinkable wine at cheap prices; consequently the use of beer and cider at the table is becoming frequent.

MINES AND MINERAL PRODUCTS.

Concerning mines and metals I take the following remarks, in substance, from the report of the chamber of commerce at Coblenz. Mining experienced an unfavorable year. Spanish ores, in consequence of improved transportation facilities by rail and water, as well as of lower freight rates, are becoming cheaper and cheaper, and slag and the refuse material from chemical establishments turned into account more and more, so that the employment of German iron ore does not increase in the

same degree that the production of raw iron does. This is apparently not confirmed by the statistics of the government, which places the consumption of ore in 1883 at 8,736,000 tons, in 1882 at 8,249,000, thus an increase of 487,000 tons, which is due to this circumstance that in the matter of minette, which is included in the computation, in Luxemburg-Lorraine, an increased demand has certainly taken place, which was partly used in the new improvements there, and partly in Belgium and France, accordingly largely by competitors with Germany.

Among the iron and steel industries there was in general no employment, because the market for many articles was rather satisfactory, but the prices obtained were on the average so low that the profits made were small.

The great increase which took place in the year 1879 in the production of raw iron, owing to the extraordinarily large exportation of railroad materials to America and to an enlarged consumption in Germany, continued to be maintained in 1883, and so far as has been established reached the amount of 3,420,000 tons, which is the highest point yet attained in any year.

Notwithstanding this increase in production, however, the value of the total quantity of raw iron produced has fallen from 192,600,000 marks ($45,838,800) in 1882, to 180,900,000 marks ($43,054,200) in 1883, or about 5 marks ($1.20) less per ton on the average.

Various circumstances have conspired to bring this about. In the first place, while the demand for heavy railroad requisites is none the less great in Germany, a decided diminution of orders from America has occurred, and the exportation of wire to the United States, which in 1882 and the early part of 1883 had become very extensive, in consequence of the apprehended increase of duties thereon, in the latter half of the year came suddenly to an almost complete standstill.

The endeavor of Russia, too, to keep out foreign ironware and advance the interests of its own industries had also an effect.

Various German establishments in consequence of this policy on the part of Russia have felt obliged to erect branch manufactories in that country, and raw iron which would otherwise be made into merchandise in Germany is sent into Russia for the purpose. France likewise is pursuing a similar line of action. The greatest influence exercised England, which had been keeping up its enormous productions notwithstanding its flat market, and which endeavored in its unfavorable situation, with the greatest exertions, to throw its accumulated surplus upon the German market.

Cleveland foundry iron was offered at prices against which even the works of Luxemburg, Lorraine, which delivered iron at like prices, could hardly compete, and with similar experience met the places working according to the Bessemer and Thomas processes.

Into Italy the Germans have been desiring for some time past to ship their products, but are prevented from doing so by the high railroad freights which prevail, and which leave the Italian market to the enjoyment of the English. During the last few years ship-building has received an impetus in Germany, and been of great benefit to the workers in iron, as the imperial and various private yards employ only German materials.

The situation of the copper works has become very unfavorable, owing to overcompetition.

The price of lead and zinc was very unsatisfactory and afforded very slight returns to capitalists. In the production of lead the situation was materially worse.

The price of lead went down from month to month until November, when it stood at a point which for a hundred years and more had been but twice reached, namely, in 1780 and 1832.

The market for lead was more unfavorable than for zinc, and for a time there was an almost complete stagnation in the market.

It is considered by the lead industries very essential to their improvement that a revision of the tariff of Germany should be made with respect to the importation of raw material and the duties lowered.

The amount of silver produced in 1883 rose to 233,884 kilograms (230 tons English), and the shrinkage of value, in comparison with the former normal price of silver, amounted to about 7,000,000 marks ($1,666,000).

Should the dissolution of the Latin Monetary Union or a suspension of the coinage of silver by the United States lead to a further decline in the price of silver, the production of silver in Germany would become at once impossible.

If the German Government, therefore, should seek to assign to silver its former importance as a standard of exchange it would be to ward off such a calamity.

In chemical circles a decided depression in certain branches of the business is complained of, brought about in part by overproduction, and in part by the high tariff duties levied by other countries upon imported chemicals. Colors are much cheaper than formerly. There was an increase in the value of the chemicals shipped to the United States in 1883 over 1882, but the value of the colors exported was less.

LEATHER INDUSTRY.

In leather, which has been in a depressed state for several years, the situation became more promising, in consequence of a limitation of production, but no decided improvement occurred.

The manufacturers of sole leather are somewhat afraid of American competition, and are disposed to urge that the duty of 36 marks ($8.56) per 100 kilograms (220 pounds), which has afforded them a good deal of protection, be made still higher. There was more than $100,000 worth less of leather sent to the United States from this district in 1883 than in 1882.

THE SUGAR INDUSTRY.

Sugar is falling very much in price. A great deal of money having been made in the beet-sugar industry by the pioneer manufacturers, sugar factories have sprung up rapidly all over the Empire, and too many persons are now engaged in the business, both as manufacturers of sugar and as cultivators of beets. The result is that sugar is beginning to be sold at remarkably low figures, and a general break will doubtless soon take place among the youngest and weakest concerns.

JAPAN AND AMERICAN RICE.

Concerning rice it may be of interest to the Americans to read that a very fine and cheap article is said to come now from Japan, which is competing strongly with the fine Java and Carolina rices. Our Carolina rice, it is claimed, is being driven thereby completely out of the European market.

PETROLEUM INSPECTION.

All petroleum is now being subjected to rigid examinations by the governmental authorities for the purpose of having it conformed to certain requirements respecting inflammability.

At the ports of entry the petroleum is examined and the barrels stamped, but dealers in the article who receive the same are expected to see to it that the oil answers the requirements of the Government, and to submit the petroleum to a second scrutiny, as the first is considered to be somewhat superficial. This entails expense upon the merchants unnecessarily, it is claimed, and is giving rise to much complaint in certain quarters.

FISHERIES.

Respecting the fisheries, I have to remark that the people of the Upper Rhine are very much aggravated with the Dutch at the mouth of the river, who reap in the matter of the fisheries of the Rhine the advantages which accrue from the sowing. While the Germans propagate and protect salmon and other fish, and fix with great definiteness the days and periods when they can be caught, the Dutch take them at all times and seasons, and revel on their meat, while the Germans must content themselves with half a haul. The matter is giving rise to considerable ill-feeling among those interested, in the fisheries, and forms, I believe, the subject of diplomatic correspondence.

LABOR LEGISLATION.

A measure of great importance to the working classes of Germany, namely, the law providing for the support of workingmen when ill for a limited period of time, has gone in part into operation during the present year, and will take effect entirely on the first of December next; and another act, making provision for the relief of workingmen who become injured by accident while in the performance of their duties, and of their families, has been adopted by the Reichstag at the close of its last session. Of both these enactments a full synopsis has been given by me in my report upon labor and wages, made July 25. Both are experiments in a social-political direction, and the result of their application is looked forward to with a good deal of interest and curiosity.

The next step of the Government will be, it is said, to prepare and lay before the Reichstag a bill to provide a certain measure of support to workingmen when they become too old to further labor.

IMPORTS AND EXPORTS FROM GERMANY.

The value of the merchandise exported from Germany in 1883 amounted, in round numbers, to $793,730,000, against, in 1882, $772,095,000, and of that imported into the Empire to $783,234,200, against $753,198,600 in the foregoing year, or an excess of exports over imports of about $10,000,000; but while there was an increase of $30,000,000 in the value of the merchandise imported the increase in the value of exports was only $21,000,000. This has occurred notwithstanding the great efforts which are being made both by the Government and private individuals to advance the industrial and commercial interests of the people by protecting the manufacturing interests at home and seeking out profit-

able markets abroad, and thus to materially raise the excess of exports over imports.

A desire for colonial possessions and for a commercial supremacy befitting the leading military nation of the present day is taking possession of all classes, and on all hands, even in the schools, are colonies talked about.

GERMAN VS. FRENCH MANUFACTURES.

The importation of goods from France is said to be declining. The Germans claim that their wares are becoming just as good, if not superior to the French, and as tasteful, and can be sold cheaper, and are consequently showing an inclination to favor the production of their own industries. The unpleasant feeling also unfortunately existing between the two nations has doubtless had considerable to do with bringing the change about.

JAS. HENRY SMITH,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Mayence, September 1, 1884.

SILK TRADE OF THE PRINCIPAL COUNTRIES.

REPORT BY CONSUL PEIXOTTO.

The principal countries producing and consuming silk goods are France, England, Switzerland, Italy, Germany, and the United States.

In comparing the exports and imports of these countries for the first six months of the current year with those of the corresponding period for 1883, a pretty accurate idea may be formed of the general market of the silk industry in its relation to consumption.

The export of silk goods from the different countries (the United States excepted, as it does not export this class of goods), compared with the corresponding six months of 1883, was as follows:

First semester.

Countries.		1883.	1884.
France	francs	149, 646, 000	138, 428, 000
Germany	kilograms	2, 929, 000	2, 544, 000
Switzerland	do	1, 720, 900	1, 904, 900
Italy	francs	6, 504, 000	9, 921, 000
England		£1, 174 542	£1, 087, 991

As will be observed, the first six months of 1884 shows, as compared with same period in 1883, a decrease of 11,218,000 francs, or 7.49 per cent., for France; 385,700 kilograms, or 13.16 per cent., for Germany; £86,551, or 7.36 per cent., for England, and *per contra*, an increase of 184,000 kilograms, or 10.69 per cent., for Switzerland; 341,700 francs, or 52.53 per cent., for Italy.

The unities upon which the statements of the custom-houses are based, which register in some countries the weights and in others the value of merchandise, being different, it is impossible to make a general comparison; at the same time, it is easy to see that the sum of decrease exceeds that of increase, from which it may readily be concluded that the markets for the sale of silk manufactures for 1884 have been less active than in 1883.

Respecting the imports of foreign silk goods into the same countries, adding those of the United States, the following results are to be found:

First semester.

Countries.	1883.	1884.
France.....francs..	20,968,000	22,102,000
Germany.....kilograms..	317,409	342,900
Switzerland.....do	62,100	80,300
Italy.....francs..	13,348,000	16,913,000
England	£5,730,021	£6,180,101
United States	$14,156,000	$18,822,872

From the above, a general increase will be observed over 1883, to wit, as follows:

One million one hundred and thirty-four thousand francs, or 5.40 per cent., for France; 25,500 kilograms, or 8.03 per cent., for Germany; 18,200 kilograms, or 29.30 per cent., for Switzerland; 3,565,000 francs, or 26.70 per cent., for Italy; £450,080, or 7.85 per cent., for England; $4,666,863, or 32.96 per cent., for the United States.

The conclusion to be drawn from the above is exactly opposite from that shown by the table of exports. This contradiction is, however, in my judgment only apparent and arises from the different manner of keeping statistics in different countries.

Each country, in fact, has a different system for keeping its custom-house statistics, rendering it all but impossible to make comparisons without a searching investigation as to these different methods. Import and export tables are differently estimated, both as to products and values. Thus, in France, silk goods are counted at manufacturers' prices, instead of at cost of production, while on their arrival in England or the United States these goods are estimated at their value at the moment of importation, insurance, commissions, &c.

Uniformity in the keeping of statistics should be sought by the different great commercial countries, and would prove of immense service in determining values. It is respectfully sugggested that the next international statistical congress give this subject serious consideration.

BENJAMIN F. PEIXOTTO,
Consul.

UNITED STATES CONSULATE,
Lyons, September 15, 1884.

FOREIGN COMMERCE OF AUSTRIA-HUNGARY.

REPORT OF CONSUL-GENERAL WEAVER, OF VIENNA.

The foreign commerce of Austria-Hungary during the first half year of 1884 has been made public, from which I abstract the following items as possessing sufficient interest and importance to justify transmission:

The value of the imports during the first semester of 1884 amounted to 307,300,000* florins, against 319,000,000 for like period of 1883, being a decrease of 3.6 per cent., while exports fell off from 358,600,000 florins

* The average value of the florin during the first six months of 1884 was 40 cents United States currency, against 40.61 cents for the first six months of 1883.

for the first half of 1883 to 310,100,000 florins for like period of 1884, being a decrease of not less than 48,500,000 florins, or 13.5 per cent. This reduced the balance of trade in favor of Austria-Hungary from 39,900,000 florins in the first semester of 1883 to 2,800,000 in like period of 1884.

The decrease in the foreign commerce of this Empire during the period under consideration resulted not only from the decreased amounts of goods handled, but also from the depreciation of the value of the articles. As prices, however, for these computations are regulated but once yearly, the effect on statistics must appear only gradually, and at all times show less change than the actuality.

The following table gives the value of the imports and exports into and from Austria-Hungary during the first six months of the last eight years, the value being given as florins:

Years.	Imports.	Exports.	Totals.	Balance.
	Florins.	*Florins.*	*Florins.*	*Florins.*
1877	255, 800, 000	257, 700, 000	513, 500, 000	1, 900, 000
1878	271, 200, 000	289, 000, 000	560, 200, 000	17, 800, 000
1879	255, 500, 000	340, 000, 000	596, 100, 000	85, 100, 000
1880	288, 400, 000	302, 700, 000	591, 100, 000	14, 300, 000
1881	299, 100, 000	343, 600, 000	642, 700, 000	44, 500. 000
1882	370, 800, 000	332, 100, 000	702, 900, 000	−38, 700, 000
1883	319, 000, 000	358, 900, 000	677, 900, 000	39, 900, 000
1884	307, 300, 000	310, 100, 000	617, 400, 000	2, 800, 000
1877–'80	267, 700, 000	297, 500, 000	565, 200, 000	29, 800, 000
1881–'84	324, 000, 000	336, 100, 000	660, 100, 000	12, 100. 000

The following leading articles of import, consisting largely of material for manufacturing purposes, show important increase:

Articles.	1884.	1883.	Increase.
	*Metrical centners.**	*Metrical centners.**	*Metrical centners.**
Wool	113, 915	93, 319	20, 596
Cotton waste	43, 149	31, 792	11, 657
Flax	210, 424	188, 362	22, 062
Hemp	23, 683	17, 072	6, 611
Jute	76, 787	66, 876	9, 911
Cocoons	1, 951	919	1, 032
Floss silk unspun	2, 605	1, 711	894
Amber	485	304	181
Meerschaum	2, 141	1, 800	341
Mussel shells	11, 126	4, 678	6, 448
Iron ore	169, 284	42, 359	126, 925
Bar-iron	56, 114	32, 941	23, 173
Lead, raw	8, 063	3, 768	4, 295
Zinc, raw	61, 220	49, 451	11, 769
Tin, raw	9, 092	6, 930	2, 162
Acorns	83, 817	70, 994	12, 833
Skins and hides	87, 680	72, 695	14, 985
Sole-leather waste	3, 454	1, 798	2, 056
Animal tallow	17, 838	7, 024	10, 814
Palm and cocoanut oil	47, 439	38, 266	9, 173
Linseed oil	47, 698	40, 745	6, 953
Tar and pitch	121, 273	88, 028	33, 245
Mineral oils, crude	342, 341	63, 059	279, 282
Grain	3, 215, 530	2, 465, 708	749, 822
Fruit, green	7, 204	2, 789	4, 415
Cotton oil	15, 983	10, 346	5, 637
Beer	19, 948	6, 059	13, 889
Arrack, rum	3, 201	2, 451	750

* One metrical centner=100 kilograms=220.46 pounds avoirdupois.

The principal exports showing important changes are the following:

[+ Increase; — decrease.]

Articles.	1884.	1883.	Increase or decrease.
	Metrical centners.	*Metrical centners.*	*Metrical centners.*
Tobacco leaves	23,140	9,690	+ 13,450
Wood	11,766,622	10,216,837	+ 1,549,785
Brown coal	15,274,656	14,390,957	+ 883,669
Iron ore	193,318	157,822	+ 35,496
Ozokerite	20,140	4,846	+ 15,294
Zinc plates	6,140	2,357	+ 3,783
Woolen yarn	7,811	4,409	+ 3,402
Rags	5,391	3,590	+ 1,801
Clover seed	42,592	16,744	+ 25,848
Woolen goods	20,230	19,413	+ 817
Cotton goods	19,065	17,318	+ 1,747
Silk goods	2,208	1,927	+ 281
Mother-of-pearl goods	1,796	708	+ 1,088
Explosive goods	45,885	38,543	+ 7,342
Concave glass	120,425	112,706	+ 7,719
Plate glass	3,170	1,213	+ 1,957
Glass, colored, &c	22,337	12,805	+ 9,532
Porcelain, colored, &c	11,982	9,115	+ 2,867
Weapons	2,568	309	+ 2,259
Petroleum	24,080	2,043	+ 22,037
Linen goods	14,143	15,195	— 1,052
Jute goods	632	1,256	— 624
Rope-makers' goods	2,044	3,102	— 1,058
Wooden ware, fine	10,080	13,018	— 2,938
Wood for floors	1,449	4,241	— 2,792
Ingots	748	4,248	— 3,500
Bar-iron	50,686	62,619	— 11,933
Machinery	51,300	85,415	— 34,115
Grain	2,336,284	4,024,166	— 1,687,882
Sugar, raw	451,394	689,221	— 237,827
Sugar, refined	709,701	724,213	— 14,512
Peas, beans, &c	170,384	221,491	— 51,107
Flour	690,001	1,013,837	— 323,836
Potatoes	56,649	85,321	— 29,672
Fruit, green	25,588	39,215	— 13,627
Eggs	149,460	207,331	— 57,871
Butter	19,545	23,549	— 4,004
Spirits	81,194	170,678	— 89,484
Wine	188,868	216,295	— 27,427
Mineral water	78,499	88,124	— 9,625
Sheep (head)	234,617	265,674	— 31,057
Hogs (do)	58,294	87,623	— 29,329
Young pigs (do)	14,740	24,145	— 9,405
Rape seed	23,058	87,260	— 64,202
Other oil seeds	13,268	30,267	— 16,999
Rape-seed oil	1,556	8,598	— 6,952
Coke	73,921	171,829	— 97,908
Wool	25,413	36,007	— 11,594
Sulphuric acid	14,046	18,042	— 3,996
Muriatic acid	8,266	14,425	— 6,159
Litharge	9,894	14,302	— 4,408
White lead	2,772	8,105	5,333

On account of the diminished exports of sugar and alcoholic spirits the drawbacks on the exportation of these articles fell some 3,300,000 florins. These drawbacks or excise duties refunded on exports amounted during the first six months of 1883 to 14,570,113 florins on sugar, 1,800,637 florins on spirits, and 199,813 florins on beer, making a total of 16,570,563 florins; while for the same period of 1884 they were as follows: On sugar, 12,213,840 florins; spirits, 845,823 florins; and on beer, 208,752 florins, making a total of 13,268,415 florins, being a decrease of 19.9 per cent., or nearly one-fifth of the whole. As the duties collected during the first six months of 1884 likewise show an increase of 1,000,508 florins, when compared with a like period of 1883, the exchequer of the Government in this department is better off by 4,302,656 florins in 1884 than in 1883.

The duties collected in the first six months of 1884, compared with like period of 1883, were as follows:

[+ increase; — decrease.]

Months.	1884.	1883.	Increase or decrease.
	Florins.	*Florins.*	*Florins.*
January	4, 472, 324	4, 271. 854	+ 200, 470
February	3, 702, 192	3, 707, 399	— 5, 207
March	3, 879, 453	3, 937, 495	— 58, 042
April	9, 848, 081	3, 691, 583	+ 156, 498
May	4, 257, 828	3, 708, 933	+ 548, 895
June	3, 533, 250	3, 375, 356	+ 157, 894
Total	28, 698, 128	22, 692, 620	+ 1, 000, 508

The comparison of the imports and exports of grain during the first six months of 1884 and 1883 manifest great changes, showing in 1884 a surplus import of 880,000 metrical centners against a surplus export of 1,558,000 metrical centners in 1883, being a total change of 2,438,000 metrical centners, or 243,000 tons of 1,000 kilograms each. The several items of these changes are as follows:

[Increase;— decrease.]

	1884.			1883.		
	Imports.	Exports.	Difference.	Imports.	Exports.	Difference.
	Metrical centners.	*Metrical centners.*	*Metrical centners.*	*Metrical centners.*	*Metrical centners.*	*Metrical centners.*
Wheat	574, 000	469, 000	— 105, 000	822, 000	1, 861, 000	+ 1, 039, 000
Rye	879, 000	33, 000	— 846, 000	413, 000	98, 000	— 315, 000
Barley	193, 000	694, 000	+ 501, 000	173, 000	870, 000	+ 697, 000
Oats	259, 000	372, 000	+ 113, 000	183, 000	185, 000	+ 2, 000
Maize	1, 230, 000	279, 000	— 951, 000	751, 000	545, 000	— 206, 000
Malt	1, 000	483, 000	+ 482, 000	.....	447, 000	+ 447, 000
Others	80, 000	6, 000	— 74, 000	124, 000	18, 000	— 106, 000
Total	3, 216, 000	2, 336, 000	— 880, 000	2, 466, 000	1, 024, 000	+ 1, 558, 000

Of the 3,216,530 metrical centners of grain imported during first half year of 1884, which came largely from Roumania duty free by virtue of special treaty, 2,592,461 metrical centners were entered without payment of duties, against 1,769,298 metrical centners in like period of 1883. Consequently the amounts paying duty fell off from 696,410 metrical centners in 1883 to 623,069 metrical centners in 1884.

JAMES RILEY WEAVER,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Vienna, Austria-Hungary.

CEREAL AND WINE HARVESTS OF FRANCE.

REPORT OF CONSUL PEIXOTTO, OF LYONS.

The minister of agriculture has just published the official tables of the French harvests for the year 1883; at the same time a certain number of valuable statistics relating to agriculture.

Though these tables are unaccompanied with commentaries of any sort, and at first glance appear very dry, with analysis and study they prove to be highly instructive and cannot fail to interest our people.

The results of the year 1883 taken separately may be briefly stated.

It is perhaps of little importance to know more than the absolute value of the harvests of barley, Indian corn, millet, rape-seed, &c., I will therefore pass these products and come at once to the more important staple.

WHEAT CROP OF 1883.

The product of wheat reached 104,000,000 hectoliters, an average of 15¼ hectoliters to a hectare, being a little superior to the average production of the past ten years, but considerably inferior to the harvest of 1882, which with a yield of 17.70 hectoliters to the hectare gave 122,000,000 hectoliters, or very nearly the amount required for the home consumption of France. The crop of last year was, therefore, only a verly little superior to the average year for wheat and for the greater part of other cereal crops.

WINE HARVEST.

The wine crop of 1883 amounted to 45,000,000 hectoliters, an increase of 5,000,000 hectoliters over that of 1882.

These figures are still very much below the production of France prior to the phylloxera, when her wine crop reached 70,000,000 hectoliters.

Much yet remains to be done to restore French vineyards to their former prosperity. Towards this reconstitution the slips and stocks of American vines are largely contributing.

France has 2,122,000 hectares planted in vineyards, and, as above noted, the yield in 1883, as regards quantity, was superior by one-fourth to the previous year, but inferior to the average possible harvest.

The deficiency of 20,000,000 hectoliters over 1882 was made up by imports from Spain and Italy, these imports having varied since 1880 between 7,000,000 and 9,000,000 hectoliters annually.

In four years France has had to pay tribute to foreign wines to the amount of $300,000,000, being $100,000,000 more than what she ordinarily exports.

It is noteworthy to remark the increasing importance of her imports of dry raisins, nearly 65,000 tons, representing annually an equivalent of 3,000.000 hectoliters of wine at 8 degrees.

The remaining deficit is made up from the *dédoublement* (dilution) of the body wines of Spain at 15 degrees of alchol, from which operation purely artificial wines are fabricated.

Statistics are silent as to the production of such wines.

NOTE.—A hectoliter, dry measure, is 2¾ bushels; liquid, is 22 gallons. A hectare is nearly 2½ acres (2.471).

AVERAGE PRICES OF FOOD IN FRANCE FOR TWENTY YEARS.

The most interesting portion of these official documents consists in the tables showing the average prices of food in France for the past twenty years.

The retrospective view of material life supported by the first authority is seldom given in continental statistics. As a rule there is always something lacking and the accuracy is doubtful.

I beg to submit several tables showing the total production and the average production, as well as the average prices, of some of the principal articles of food for the past twenty years, separating these years into decennial periods.

Total and average production and average prices of wheat, flour and bread, for twenty years

Years.	Wheat production in million hectoliters.	Average prices for 100 kilograms.			Years.	Wheat production in million hectoliters.	Average prices for 100 kilograms.		
		Wheat.	Flour.	Bread, first quality.			Wheat.	Flour.	Bread, first quality.
	Francs.	*Francs.*	*Francs.*	*Francs.*		*Francs.*	*Francs.*	*Francs.*	*Francs.*
1864	114	24.26	35.28	34	1874	133	31.88	45.58	43
1865	95	22.99	34.32	33	1875	101	23.93	35.74	36
1866	85	25.41	36.50	35	1876	95	26.71	37.74	37
1867	85	34.34	46.01	45	1877	100	30.01	42.22	40
1868	117	34.42	42.50	45	1878	95	29.96	42.67	41
1869	107	28.92	36.84	36	1879	79	28.20	40.72	39
1870	105	26.63	39.57	36	1880	99	29.26	42.66	41
1871	69	33.13	47.34	43	1881	97	28.81	41.23	39
1872	121	30.43	45.39	41	1882	122	27.69	40.34	39
1873	82	33.48	47.39	43	1883	104	24.83	37.15	36
Decennial average	93	29.20	41.81	39.10	Decennial average	103	28.20	40.57	39.40

Total and average production and average prices of potatoes, beef, mutton, and forage for twenty years.

Years.	Potatoes.	Average prices for 100 kilograms.			Years.	Potatoes.	Average prices for 100 kilograms.		
		Beef.	Mutton.	Forage.			Beef.	Mutton.	Forage.
	Francs.	*Francs.*	*Francs.*	*Francs.*		*Francs.*	*Francs.*	*Francs.*	*Francs.*
1864	7.73	118	129	7.28	1874	8.32	159	172	7.92
1865	7.67	113	123	7.74	1875	6.23	152	166	9.64
1866	8.71	114	125	7.15	1876	8.47	154	171	10.22
1867	8.84	132	143	6.54	1877	9.25	159	178	7.94
1868	9.00	135	146	7.46	1878	8.92	168	185	6.69
1869	6.57	135	147	9.03	1879	9.12	165	180	7.22
1870	9.10	132	143	11.53	1880	9.48	159	177	8.46
1871	8.33	146	146	12.46	1881	7.52	156	177	8.97
1872	6.84	156	174	7.16	1882	8.90	159	181	8.95
1873	9.54	171	183	6.41	1883	8.90	163	186	8.00
Decennial average	8.23	134.70	145.30	8.27	Decennial average	8.51	159.40	177.30	8.40

An examination of these tables shows that if from one decennial period to the other the price of wheat has somewhat fallen, that of bread has remained stationary.

The difference, however, has not benefited the consumer, as will appear when I state that to-day (August 20), after a fall in wheat below the prices of 1864 and 1865, 3 and 5 centimes more per kilogram are paid than then. Wheat is quoted at 21.50 to 22 francs the 100 kilograms.

Other articles of food, as given in the above tables, such as potatoes and forage, have not sensibly changed, but beef has risen in price very considerably from one period to the other, viz: 15 per cent. for beef and 33 per cent. for mutton.

The high prices, especially for beef and bread, toward the approach of 1867 and 1878 (Paris Exposition dates) may be incidentally remarked as characteristic of the speculation which then prevailed.

RÉSUMÉ.

From a study of these official documents I find that France from year to year is diminishing the excess of her imports in so far as concerns her agricultural domain. This has certainly been the case since 1880, as will be seen from the following exhibit:

	Francs.
1880	2,126,000,000
1881	1,770,000,000
1882	1,687,000,000
1883	1,648,000,000

This relative progress is due to the harvests of the above years, which have been quite up to the average level.

Another striking feature in these statistics is the enormous increase shown in the exports of chemical manures, and particularly the unparalleled progress of margarine mouriès.

This barbarous condiment has so increased in the esteem of foreigners that the exports have risen in a single year from 300,000 to 2,792,000 kilograms (1881–1882), and from those figures to the almost incredible export of 7,220,000 kilograms in 1883.

BENJAMIN F. PEIXOTTO,
Consul.

UNITED STATES CONSULATE,
Lyons, August 19, 1884.

CREDIT SYSTEM IN NEWCHWANG.

REPORT BY VICE-CONSUL BANDINEL.

In accordance with the Department's circular dated May 15, 1883, I have the honor to submit some remarks on the credit system at this port and in this district, consisting almost entirely of replies made by a fairly intelligent Chinaman to the various interrogatories prepared by the Department.

I. Credit is essential to the principal traders of this port, the dealers in beans, cakes, oil, grain, and silver. Very few firms have so large a capital as, say, $13,000, quite insufficient for the requirements of business if no credit were allowed. With this sum, however, they can trade on credit for ten times the amount.

II. Business people dislike being in debt, as a prompt settlement of accounts increases their reputation, besides, if they did not meet their engagements they would have to stop doing business.

III. Gambling for a rise or fall in goods or money, and paying or receiving the difference, is an offense against the law. But *bona fide* credit sales or purchases do not call for official interference. Business people, however, regulate and limit credit by having certain fixed settling days, namely, for transactions between firms the first day of the sixth month and the first day of the ninth month; for transactions between private persons or between them and firms, the fifth day of the fifth month, the fifteenth day of the eighth month, and the last day of the year.

IV. In small business, the sales are made for cash, half on credit; in large business the proportion of credit sales is 60 or 70 per cent., in fact; the larger the business the fewer are the sales for cash.

V. About 70 per cent. of suspensions are due to the profits not being sufficient to defray the current expenses, about 10 per cent. owing to the sleeping partner withdrawing his capital, and only about 20 per cent. to bad debts.

VI. Mechanics and laborers are not readily trusted; credit, if given, is only to a very small extent.

VII. In transactions between firms the credit price of exports is higher than the cash price. But on sales of imports there is no such difference, deferring payment for three weeks or a month because the buyer is short of ready money being considered a case of mutual accommodation.

In dealings between firms and private individuals the latter are allowed no discount for cash, and it is absolutely necessary for them to settle their accounts on the regular days before mentioned. On the other hand, no retail house could compete with its neighbors unless it was prepared to sell on credit to householders, small farmers, and respectable individuals generally, and to charge no more for credit than for cash sales.

VIII. A firm or man that owed money would lose credit by asking for an extension of time and offering to pay interest. They would endeavor to borrow money on interest from a third party with which to meet their engagements at the due date.

IX. The evils of credit are most conspicuous among speculators for a rise or fall in prices.

X. Oil, cakes, beans, grain, flour, silver are mostly sold on credit. Other articles are sold at two or three weeks, prompt. There is no such thing as cash on delivery.

XI. Credits of record are practically unknown.

XII. The firm-names are not, as in the United States, the names of the individuals, but are, more likely, the signs of inns or public-houses, a motto from some classic author expressing much in two or three words, *e. g.*, "Honesty and prosperity." They therefore afford no clue to the individuals composing the firm, and there would be nothing to prevent the manager obtaining employment under another motto so long as the circumstances which led to his failure did not detract from his reputation for honesty or ability. In cases of suspension some firms are unable to pay anything, owing to their having continued trading when hopelessly insolvent. Some, after legal proceedings, pay a small dividend. Some get matters arranged through their friends. Sometimes their creditors take over the assets at a fictitiously enhanced value as payment in full for their debts; sometimes the assets are sold and the proceeds divided proportionately among the creditors. In fact, payment is never made in full after suspension (the amounts paid ranging from 30 to 80 per cent. of the amount due), for could they meet their liabilities they would not suspend.

Sometimes if a firm wish to continue business but have not capital enough to discharge their liabilities, they call their creditors together, lay the circumstances of the case before them, and try to arrange matters. Sometimes they are allowed to pay in so many annual installments; sometimes they are granted a term of three years to continue business, at the end of which time they must pay in full or make some fresh arrangement, or finally close.

Occasionally their creditors accept a composition of so much per cent. In this case they can resume business without further responsibility for past debts, however large profits they may make hereafter. It will, however, be very difficult to enjoy confidence, and only personal friends will sell to them on credit, and this only to a small extent.

XIII. The average number of failures among business firms is about 5 per cent. per annum.

XIV. A bankrupt only gives up his goods and his business premises to his creditors if they are unusually urgent and insist on having a thorough settlement.

If his business assets are very small he may think it advisable to sell a little of his private property, real or personal, or to part with a little of his private money for the purpose of pacifying his creditors, but there is no such thing known as stripping a man of all his private property to pay either his business or his private debts. In fact there is practically no means of recovering debts from private individuals, as the officials look on debts as trifling matters. The natural consequence is that the principal bad debts found when the books are balanced at the end of each three years consist of moneys due from householders and laborers.

XV. Fortunes are readily made and lost by those who speculate for a rise or fall in prices and in exchanges, but legitimate business is not subject to such violent fluctations.

XVI. In conclusion I can only say that if credit were not allowed at this port business would be greatly curtailed and the results would be felt severely in Shanghai, Swatow, Amoy, Canton, and Foochow.

J. J. FRED'K BANDINEL,
Vice-Consul.

UNITED STATES CONSULATE,
Newchewang, July 23, 1884.

CLIMATE, SOIL, AND FRUITS OF THE ARGENTINE REPUBLIC.

REPORT BY CONSUL BAKER, OF BUENOS AYRES.

Several months ago I acknowledged the receipt of a circular from the Department of State, which, at the request of leading fruit-growers of California, inclosed certain interrogatories in regard to the cultivation of oranges, lemons, figs, olives, and raisin grapes, and requesting me to report on the subject of the culture of such fruits in this country, the extent to which they are cultivated, and whether for home consumption or export; the amount exported, and the countries to which they are exported; the climate, the soil—"in fine anything which help our agriculturists to engage in the cultivation of such fruits understandingly and show the general public the extent and value of the fruit industry" in the Argentine Republic.

I did not respond to the circular at the time, for the reason that there is so little scientific culture of any kind of fruit in this country, the in-

dustry is in such a primitive state, the attention devoted to its preparation for market is so limited; the care taken to receive the best varieties is so insignificant, and there is such a general lack of enlightenment in regard to the most approved methods of cultivation, that there seemed to be little or nothing to be said which would "help our own agriculturists to engage in the cultivation" of any class of fruit with an increased understanding. Our own country is so far ahead of this in everything that pertains either to the methods of growing fruits or their preparation for market, that in these matters we are much better prepared to teach the people of the Argentine Republic than to receive instruction from them; and I therefore assumed that the subject of the circular was intended for the countries of Southern Europe rather than for this far-off portion of South America.

THE ARGENTINE REPUBLIC AS A FRUIT-GROWING COUNTRY.

It must be admitted, however, that the Argentine Republic not only possesses naturally the most wonderful possibilities as a fruit-growing country, but that it already, without methods and without care or attention, produces abundantly of every variety that has been introduced or grows indigenous. In the great diversity of its soil, and the vast range of climate which it affords, there is, indeed, no fruit which it cannot and does not produce—whether it be of the tropical, the sub-tropical, or the temperate zone. In the northern provinces are to be found in full perfection quite all the fruits which Brazil and Central America are famous for; in those provinces which lie under the Andes are grown the most luscious grapes which any country affords, while in the more southern parts of the republic, reaching even to the confines of Patagonia, there are few fruits of any kind which cannot be cultivated with the best results. Under these circumstances, while saying little about methods of cultivation, it has since occurred to me that it was not more than an act of justice to this country to report *generally* in regard to its soil and climate and its marvelous facilities for a diversified fruit culture.

THE CONFIGURATION OF THE ARGENTINE REPUBLIC.

It will be borne in mind that the territory of the Argentine Republic, leaving out Patagonia, extends from 22° to 42° of south latitude; that is to say, it occupies a zone of over 1,000 miles from north to south, of subtropical and temperate climate; and presents a contour of surface more diversified and varied than, perhaps, any other equal portion of the globe. Its inclination is from northwest toward the southeast; and from its western part toward the center there are continuous ranges of mountains, generally narrow and low, extending regularly from north to south, with the western slopes more precipitous than the eastern. Numerous small streams have their rise in these mountains, as also in the Cordilleras of the Andes, whose summits form the dividing line between this country and Chili. They all run in the same general direction, namely, from the north towards the south, gradually turning to the southeast toward the river Parana, which, however, the greater portion of them never reach, for the reason that their waters are dried up and absorbed on the way. The Parana, which is the largest river in the country, rises in many affluents beyond the limits of the republic, receiving the greater part of its waters from the tropical rains of Brazil, and finally empties its accumulated volume of water into the broad basin of the Plata.

The configuration of the country is naturally divided into four groups, as follows: (1) The Cordilleras of the Andes; (2) the isolated ranges in

the north of the republic; (3) the central system of the Argentine table lands, represented by the sierras of Cordoba, and (4) the system of the southern pampas. The first or Andine group embraces the high table lands between 67° 30′ and 69° 30′ longitude west of Greenwich, with shallow intervening valleys running north and south, and with occasional volcanic peaks which rear their heads above the limit of eternal snow. The mean height of these table lands is given at 13,000 feet, and the snow limit is calculated to be at 14,000 feet, the loftiest summit being more than 18,000 feet high. In this system are the provinces of Catamarca, San Juan, and Mendoza with their wonderfu lwine-producing slopes.

The second or northern group, in its western part, is made up of rough and rugged mountain promontories, with wide wastes of desert, without population or water; but the eastern portion, whose valleys slope to the southeast, are well watered by streams bordered by crests of magnificent woods which contribute to make these districts the most picturesque of the Argentine Republic. Here the cultivation of sugar and coffee could be made a grand industry, and the banana grows spontaneously as in Brazil, but the isolated situation of the provinces of Salta and Juping, in which these valleys are found, and the difficulties which the navigation of the Rio Vermejo presents in its course to join the Paraguay, prevent the increase of population. Further to the southward lies the Aconquija range, running through the rich province of Tucuman, and composed of five summits, one behind the other, which unite to form the high valley of Tafi, celebrated for its pasturage and its cheese. Abundant streams ramify in these valleys, which when united form the river Tucuman, named Tali in its upper section, Dulce in the middle, and Saladillo in its last section; and yet this river, so considerable in some portions of its course, does not reach the Parana, but finally loses itself in a lake which has no outlet.

The third or central group differs but little from the second except in its locality. It runs in three chains of sierras through the provinces of Santiago del Estero and Cordoba, and in some points is celebrated for its mines of gold and other metals. The height of these mountains, however, is quite inconsiderable, the highest peaks not reaching to over five or six thousand feet. Their slopes and meadows are rich in natural grasses, while their summits are capped by extensive forests of palm trees.

The fourth system, or southern pampa, is an undeviating plane, sloping to the Atlantic coast, and only broken by two small chains of hills running parallel to each other from northwest to southeast, showing several more or less isolated summits of metamorphic rock with a granite base. The southern Sierra, called Cuxamalan, is little more than a ridge, while the northern, called Volcan, is not more than 2,000 feet high. The pampa is not a regular level but rather resembles a broken beach, very much spread out at certain points, but running up into the interior between the mountains, and is divided into various valleys of slight depth; some portions, as in the provinces of San Luis and Catamarca, being a desert waste, scarcely watered by a single river; but all the immense region of the province of Buenos Ayres, called the "fertile pampa," is capable of every variety of vegetation produced in the temperate zone.

GENERAL FEATURES OF THE CLIMATE.

In so vast an extent of territory, with the varying levels of its surface, the climate also necessarily varies. While the extreme portions of Patagonia penetrate the antarctic regions, with a corresponding de-

pression of the temperature, in the northern portions of the republic a perpetual summer reigns, without, however, the intense heat of the tropics. The climate of the central portion corresponds very nearly to that of Southern Europe. The name of the capital of the country is an eloquent testimony in favor of the climate. The pure atmosphere produced such an impression on the first colonists under Mendoza that in addition to the indispensable saint's name they added that of "good airs" (Santa Mariá de Buenos Airés), a designation which all the pampa provinces fully deserve. This part of the Argentine Republic, however, unlike that of the northern interior, is not a perpetual spring, much less a perpetual summer. The seasons here are quite clearly defined; and, if the mercury seldom reaches even to the freezing point, it is none the less a fact that the cold winds and rains of the winter months not only make fires exceeding desirable, but not unfrequently kill the fruit blossoms of the peach and other trees. In the summer season the provinces of the litoral, *i. e.*, those bordering on the Parana River, suffer periodically from the hot winds of the north, which, coming down from the tropics, bring with them lassitude, headaches, and bad humors; while in Andine provinces there prevails during the hot weather a northeastern wind, called the zonda, which, careering over the wide wastes of barren saline districts of some of the interior provinces, resembles the dreaded sirocco of Sahara, not only destroying the eyesight unless carefully protected, but parching up all vegetation like the heat of a furnace. The most grateful of all the winds that prevail is the "Pampero," or southwest wind, which, coming off the snow-capped summits of the Southern Andes, brings with it a heathful and invigorating influence, which is most agreeable to the human constitution. In the winter this wind is sometimes quite cold, but it dispels all miasma and is never otherwise than benign. The only thing to be guarded against are the sudden changes of temperature which these different winds sometimes produce.

MEAN TEMPERATURE.

To the meteorological reports of Dr. B. A. Gould, who is in charge of the National Observatory at Cordoba, I am indebted for the following observations of the mean monthly temperature of the places named, the thermometers used being the Centigrade, the readings of which can be reduced to those of the Fahr. by the usual formula, $F. = \frac{9}{5} C. + 32$. The observations were taken in 1880.

Mean monthly temperature at the points named, centigrade thermometer.

Month.	Buenos Ayres.	Tandil.	Cordoba.	Rosario.	San Juan.	Rioja.	Mendoza.	Salta.	Tucuman.	Goya.	Formosa.	Catamarca.	Santiago.	Concordia.	Bahia Blanca.
	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°
January	24.24	21.4	22.78	24.2	25.5	27.8	23.0	22.2	25.6	25.6	27.3	27.3	27.8	25.8	24.1
February	23.44	21.3	21.28	24.0	25.3	26.2	25.3	21.9	24.6	25.5	27.3	26.5	26.8	24.9	22.9
March	21.25	19.3	18.50	21.8	23.4	25.0	19.9	19.3	23.1	24.7	25.0	24.7	25.1	24.3	18.8
April	16.94	14.3	14.65	17.6	17.9	19.2	14.9	17.5	20.2	20.4	22.1	19.3	20.6	18.8	15.5
May	13.68	10.7	11.94	13.9	13.5	15.0	10.1	14.8	15.7	16.7	16.9	13.7	16.6	14.2	11.6
June	11.14	7.5	9.85	11.0	10.1	12.3	7.6	11.9	13.3	15.0	18.9	9.8	13.9	12.6	8.7
July	9.82	8.4	8.44	11.6	10.9	13.6	8.0	12.3	13.4	15.7	18.9	9.4	14.7	13.2	8.1
August	11.75	8.9	12.07	12.4	14.0	15.0	9.8	14.7	15.8	16.1	19.5	13.4	15.6	13.4	10.2
September	13.69	10.9	15.63	14.6	16.5	20.0	12.9	16.4	18.6	17.4	18.4	18.9	19.2	16.2	12.6
October	16.85	13.5	16.80	17.6	19.9	23.6	16.8	18.4	21.2	19.8	22.0	25.3	22.7	18.4	17.6
November	20.12	17.0	20.21	20.5	23.5	25.1	29.0	21.2	23.5	21.8	24.7	25.7	26.2	21.4	19.2
December	22.94	18.5	22.53	22.5	25.7	27.4	23.4	21.8	25.3	24.7	26.9	28.1	27.7	23.8	22.5

The latitude of most of the above points can readily be determined by a reference to the map of the Argentine Republic, they being the capitals of the provinces of the same names. In regard to the others, I would state that Tandil and Bahia Blanca are in the province of Buenos Ayres, the former about 160 miles from this city, and the latter over 400 miles, being the extreme southern point of the province. Rosario is in the province of Santa Fé, about 150 miles north of Buenos Ayres. Goya is in the province of Corrientes; Concordia is in the province of Entre-Rios, and Formosa is the capital of the territory of the Gran Chaco, about 1,000 miles north of Buenos Ayres, on the Paraguay River.

EXTREMES OF HEAT AND COLD.

The following table, also compiled from Dr. Gould's report, will show the extremes of temperature, as likewise the mean annual temperature, at the places named (centigrade thermometer).

Place of observation.	Maximum.	Minimum.	Mean.
	°	°	°
Buenos Ayres	37.8	—2.0	17.11
Tandil	35.2	—2.8	14.1
Cordoba	38.6	6.8	16.2
Rosario	38.7	—2.8	17.2
San Juan	40.0	—2.8	18.3
Rioja	43.2	2.0	19.9
Mendoza	38.0	—7.5	15.8
Salta	43.0	—5.8	17.8
Tucuman	34.8	3.6	19.05
Goya	36.0	—0.4	20.00
Formosa	38.6	3.8	21.9
Catamarca	43.7	—8.1	19.7
Santiago	45.0	—1.9	21.2
Concordia	42.0	—0.6	19.0
Bahia Blanca	39.2	—3.9	15.88

As the 0° of the centigrade thermometer corresponds to 32°, or freezing point of Fahrenheit, it will be observed that the very coldest days registered anywhere in the Republic were only a few degrees below freezing, while the hottest day, which was at Santiago, was only equal to 113° of Fahr. In this city the hottest day corresponded to 100° of Fahr., and the coldest to 27½° of Fahr. It will be further noticed that the coldest days seem to belong to Andine provinces.

As, however, the pressure of the atmosphere has considerable to do with the climate of a place, I give below the mean monthly readings of the barometer, in millimeters, at the points named:

Atmospheric pressure in millimeters.

Month.	Buenos Ayres.	Cordoba.	San Juan.	Mendoza.	Salta.	Tucuman.	Formosa.	Bahia Blanca.
January	758.37	721.51	704.85	691.99	660.79	721.64	749.82	748.99
February	759.14	722.14	705.73	692.32	660.97	721.69	752.23	751.00
March	759.92	723.41	706.88	692.50	661.43	721.50	753.28	750.60
April	761.99	724.30	708.93	694.16	662.50	723.63	755.65	751.20
May	761.81	724.63	708.20	694.33	662.49	723.09	757.03	750.50
June	762.73	723.89	709.36	694.48	663.26	723.28	757.93	747.80
July	765.42	725.77	709.03	693.88	663.20	724.48	757.27	751.90
August	762.69	724.96	707.47	694.86	662.96	723.37	757.03	749.50
September	763.04	723.38	708.65	695.84	663.35	723.35	758.60	752.55
October	761.31	723.48	706.82	693.74	662.70	721.27	756.55	751.61
November	760.25	723.28	705.05	692.68	661.59	720.56	753.68	750.20
December	757.88	720.84	700.24	691.78	660.95	721.47	750.89	748.11
Mean	761.10	723.48	706.87	693.50	662.15	722.44	755.39	750.24
Maximum	780.00	735.68	722.02	720.00	678.40	733.98	772.00	702.00
Minimum	742.00	708.56	683.00	680.35	646.42	711.50	743.69	730.00

THE SEASONS.

In regard to the seasons, it will be borne in mind that, being south of the equator, they are exactly opposite to those of the United States. They are distributed thus:

SPRING: September, October, and November.
SUMMER: December, January, and February.
AUTUMN: March, April, and May.
WINTER: June, July, and August.

The winters, however, are so mild that in reality the year may be divided into two seasons; the warm, which extends from October to April, inclusive; that is to say, seven months; and the cool, which extends from May to September, inclusive, five months. The two coldest months, July and August, in this part of the Argentine Republic in temperature and meteorological phenomena, about correspond to the months of March and April in the middle belt of the United States.

It may be said that, in moving northward from Buenos Ayres along the Parana River, say from 35° to 25° of south latitude, the temperature of any given season increases at the rate of a half a degree of the thermometer for every degree of latitude. Assuming, then, the mean temperature of Buenos Ayres to be 17° (centigrade) and the latitude to be 35°, we have the following table:

Latitude.	Temperature.	Latitude.	Temperature.
Degrees.	*Degrees.*	*Degrees.*	*Degrees.*
34	17.5	29	20.0
33	18.0	28	20.5
32	18.5	27	21.0
31	19.0	26	21.5
30	19.5	25	22.0

THE RAINFALL.

The quantity of rain which, during each month of the year 1880, fell at different places in the Republic, is also given in Dr. Gould's report. I select the following points of observation, the amount being given in millimeters:

Month.	Buenos Ayres.	Cordoba.	Mendoza.	Tucuman.	Rioja.	San Juan.	Formosa.	Bahia Blanca.
January	55.51	182.05	9.4	263.3	72.1	12.7	169.0	28.49
February	77.75	135.45	15.7	217.2	87.1	10.0	181.5	53.24
March	94.33	76.75	31.1	209.4	54.8	17.3	344.0	54.58
April	64.12	30.70	56.4	39.1	16.4	29.9	31.0	44.82
May	80.31	8.07	1.6	27.2	2.0	3.0	195.0	19.23
June	72.77	10.86	10.5	0.2	8.1	4.7	117.5	25.50
July	42.26	0.20	5.8	9.3	9.7	0.0	31.5	11.22
August	46.77	53.60	4.8	0.0	7.3	0.0	89.2	17.14
September	62.41	19.02	8.3	0.0	0.0	0.0	31.5	46 61
October	102.09	70.95	22.4	36.8	13.8	30.0	187.5	56.87
November	54.97	101.97	20.4	56.4	42.2	15.0	147.5	48.03
December	93.39	85.70	15.6	196.8	39.7	14.7	64.8	44.56
Total	846.69	775.33	202.5	1,059.7	363.2	137.1	1,500.0	450.32

From this table it will be seen that, while in the Andine provinces there is a very limited rainfall, in other places there is an exceedingly unequal distribution. In the provinces of Tucuman, Rioja, and San Juan no rain, or very little, falls during the winter months. The

monthly distribution in the province of Buenos Ayres, and indeed all the provinces of the littoral, is much more uniform and reliable. In reference to this subject, Dr. Gould, in his last report to the Argentine Government, makes the following remark:

The diversity which exists between the different points of the Argentine Republic in the quantity of water that falls is probably greater than in any country in the world. For example, the observations made for more than three years in Villa Formosa, the capital of San Chaco, show a mean annual quantity of about 1.85 meters (6 feet), while in San Juan it scarcely exceeds .07 meters (2 inches), and there are places, especially on the eastern slopes of the Andes and in the Llanos or plains of the province of Rioja, where rain is almost unknown. In the city of Rioja the mean rainfall is 303 millimeters, while at Saladillo, only 12 miles distant, the rainfall is 457 millimeters, &c. I have attempted, but without any satisfactory result, to make a chart which would exhibit the distribution of the rain-fall in the Argentine Republic, but the remarkable inequality of this distribution and the small number of points from which I have been able to obtain reliable data have caused me to desist for the present from the undertaking.

WHAT DE MOUSSY SAYS OF THE CLIMATE.

In the matter of climate I may add that M. de Moussy, the well known French scientist, divides the Argentine Republic into three zones, or rather three parallel belts running from north to south, the meteorology of which corresponds rather to the nature, the altitude and situation of the regions than to their latitude. The climate of the littoral comprehends the provinces of Buenos Ayres, Santa Fé, Entre Rios, Corrientes and a part of the Chaco, thus extending from Patagonia along the Parana River to Paraguay. The climate of the interior embraces the provinces of San Luis, Cordobo, part of Rioja, Catamarca, Salta, the valley of San Francisco, and the provinces of Tucuman and Santiago. The climate of the Andes includes the provinces of Mendoza, San Juan, and all the valleys of Rioja, Catamarca, Salta and Jujuy.

The mean temperature of the littoral, or first belt, ranging between 60° and 78° Fahr., he says

Is in the isothermal zone which includes those cities of the eastern hemisphere most celebrated for the beauty of their sun and the mildness of their climate, such as Toulon, Naples, Palermo, Barcelona, Seville, Malaga, Lisbon, Algiers, Smyrna, &c., whose fruits are noted throughout the world; except that the littoral of the Argentine Republic has the advantage of much milder winters.

The climate of the second belt, he says, corresponds in many respects to that of the littoral, but the mean temperature ranges between 75° and 80° Fahr., and in the elevated plateaus of Cordoba and San Luis it depends directly upon the altitude. There are, however, hard frosts and an abundance of snow in the winter season, though they do not last long for the reason that the sun is hot even in winter. "Further north the plains and plateaus of Tucuman and Salta have a climate which is quite sub-tropical, corresponding," he says, "to that of Bolivia, there being very little difference between the temperature of the day and the night, thus favoring a vegetation which is the rankest and most magnificent in the Argentine Republic."

The climate of the Andine provinces, he says, "depends on the locality. South of 36° south the regions of the Andes, being the more elevated, naturally have more snow than those further north, and have much more humidity, a circumstance which favors a vigorous vegetation. Upon reaching the province of Mendoza we find that the climate has become very dry, it being extremely seldom that in the plains of Cayo any rain falls." Indeed these plains as far north as the sierras of Famatina and Rioja are uniformly without any but a very stunted

vegetation. On leaving these plains, and especially north of the thirtieth degree, there are numerous longitudinal valleys, where the days are warm and the nights quite cold, with frequent rains and much humidity in the atmosphere. The Argentine plateau of the Andes, which unites with that of Bolivia, has quite a rigorous climate, the line of perpetual snow descending to 5,000 and sometimes 4,000 meters. In those regions there is always frost at night, except in the middle of summer, when the sun is vertical, the climate being subject to violent changes and very severe storms.

THE NATURE OF THE SOIL.

There is as much diversity in the soil of the Argentine Republic as there is variety in the climate. Its constituent properties vary considerably according to the locality. The southern portion of the country is an extensive plain or pampa, which is bounded on the east by the Atlantic Ocean, above the level of which it has an elevation of only a few feet, but which gradually increases as we travel westward until we reach the Cordilleras of the Andes. The formation is tertiary, the soil resting on a thick stratum of yellow calciferous clay, called the Pampean formation (*Deluviana*), which is uniform and uninterrupted all over the Argentine plains, embracing over 1,000 square leagues; while its thickness reaches to about 40 feet, as may be seen by the river banks and the excavations made in the sinking of wells. The lime, as a general rule, is intimately mixed with the clay, and in many places has became aglomerated into layers, giving rise to a formation which is called *tosca*, or water-lime, which, by the way, is now used with good results for the manufacture of hydraulic cement. I may add that in this Pampean formation are found the wonderful fossil skeletons of such extinct gigantic mamifers as the *Mastodon*, the *Megatherium*. the *Mylodon*, the *Glyptodon*, and the *Toxodon*, which constitute the great attraction in the National Museum of Buenos Ayres. From the banks of sea shells found in the interior provinces it is evident that when the Diluvian period terminated the coast of the Atlantic Ocean was far within its present line, and that its receding to the eastward could not have been caused otherwise than by an upheaval. Thus is explained the existence of the hydrographic system of the interior, in the depressions of which extensive salt deposits are found. One of these depressions, situated to the west of the Sierras of Catamarca, extends from longitude 28° to 32° and embraces over a hundred square geographical leagues. These salt lands are almost entirely destitute of vegetation, and during the dry season an efflorescence of crystallized salt forms upon them so thick that it presents the appearance of a vast snow field extending out to the horizon.

In the northwest the Sierras present a higher surface and possess an excellent quality of soil, the mountainous peaks containing the sources of the rivers and water courses which empty into the great river Parana. These sierras, however, as a general thing, are not abrupt and gigantic walls of rock, but are spread out into undulating table lands, which ramify into numerous chains of lesser hills and are covered with a magnificent vegetation. These oblong mountainous ranges particularlys characterize the provinces of Catamarca, Cordoba, Rioja, and San Luis, and they all run parallel with the Andes. They are principally composed of metamorphic rocks and sometimes with granite caps. The fertility of their intervening valleys is something marvelous, producing every variety of fruit and vegetable.

ANALYSIS BY PROFESSOR DOERING.

A comparison of the constituent properties of the soil of the Sierras with that of the Pampas has been furnished by Professor Doering, of the University of Cordorba; the former taken from the neighborhood of Cordoba and the latter from the vicinity of Rosario. His analysis shows the following aggregate of constituents:

Character.	Aggregate.		Soluble.		Insoluble.	
	Sierra earth.	Pampa earth.	Sierra earth.	Pampa earth.	Sierra earth.	Pampa earth.
Oxide of potassium	3.099	1.808	0.050	0.365	3.049	1.443
Oxide of sodium	1.180	0.817	0.364	0.516	0.816	0.301
Oxide of calcium	3.328	1.963	2.968	0.410	0.360	1.553
Oxide of magnesium	0.474	1.471	0.029	1.289	0.445	0.182
Oxide of manganese	0.145	....	0.145	.....	.....	.....
Sesquioxide of iron	2.929	2.244	2.321	1.890	0.608	0.354
Susquioxide of aluminum	10.899	16.037	2.402	12.326	8.497	3.711
Silicic acid	73.803	67.189	2.838	16.045	70.960	51.044
Phosphoric acid	0.657	0.303	0.657	0.303	.....	.....
Hygroscopic water	1.119	3.383	1.119	3.383	....	.....
Lost in the fire	2.367	4.785	2.367	4.785	.....	.....
Total	100.000	100.000	15.260	41.312	84.740	58.688

It will appear from these analyses that the soil of the Sierras is much coarser and looser than that of the Pampas, which corresponds to the fact. While the earth of the Sierras and uplands is porous and light, the earth of the Pampas is compact and heavy. Owing to this fact, the rains penetrate the soil of the interior provinces with much greater rapidity than of those of Buenos Ayres and Santa Fé; and it therefore results that after the heaviest rains the soil of the Sierras readily dries upon the surface, while along the littoral the water lies upon the ground for a long time and penetrates but slowly into the earth. If it is true, however, as agricultural chemistry seems to prove, that those classes of earth which owe their origin directly to the disintegration of primitive eruptive rocks, the same classes indeed which in part compose the flourishing lowlands of the Rhine and the celebrated valley of the Nile, are the most favorable for the cultivation of fruits, it is evident that the composition of the soil of the Argentine provinces is all that could be desired. In regard to the Pampas, there are two circumstances to be considered as somewhat modifying the character of their vegetation. The first is their extraordinary level, which does not furnish the liquids of the earth, full of soluble salts, with a satisfactory drainage; and the second is the want of seasonable meteoric precipitations, which to some extent renders the vegetation less exuberant than it otherwise would be. The extreme western provinces, however, have a surface which is exceedingly volcanic, the débris which through the ages has come down from the slopes of the Andes contributing to form a soil which possesses a most wonderful fertilizing power, and admirably adapts them for the cultivation of the grape.

DESCRIPTION OF THE FRUITS OF THE COUNTRY.

With such a soil and such a diversity of climate it is not strange, as I have already said, that there is scarcely a fruit, no matter to what zone it may be indigenous, which cannot be successfully produced somewhere in the Argentine Republic. Many varieties are not cultivated

at all but grow in a state of nature, taking their chances in any soil and any locality in which their seed may chance to fall. Others are cultivated in the sense that they are planted into orchards or belts, and are then left to take care of themselves, while still others have some degree of attention and oversight devoted to them. I give a list below of the most important:

THE ORANGE.—The orange (*citrus aurantium*) was originally imported into the basin of the river Plate; but it found a sun and climate so favorable that it has infinitely multiplied, and now in certain localities grows wild, sometimes forming veritable forests. The lower Parana and the islands which form its delta are covered with these trees. They are also found more or less numerous on the islands of the upper Parana, on those of the Uruguay, and sometimes even on the borders of those rivers. Farther up those rivers the orange becomes more frequent. The forests of the Misiores as well as those of Paraguay are full of them. In riding through the interior of the latter country I found them almost everywhere, awaiting to be plucked by most any one who cared to gather them. They likewise abound in the Gran Chaco, and are found all through the forests of the sub-tropical regions, in the valleys of San Francisco, in the woods of Oran, in the meadows of Tucuman, and indeed they may be said to flourish throughout the eqinoxial zone of South America.

On the lower islands of the Parana and Uruguay the fruit which the tree yields is somewhat "bitter," sour and acid, but farther north, and especially in the province of Corrientes, in the Misiores, and in Paraguay, they are deliciously sweet and of very large size. The orange is produced perfectly from the seed, and these being scattered everywhere by the parrots, which are exceedingly fond of the fruit, explains the fact of its general dissemination. The orange tree blossoms in October and matures its fruit in April. It is generally harvested in May and June, but it will remain for a long time on the trees and will even last till September. In the Misiores and Paraguay many of the inhabitants content themselves with gathering their supply of oranges from the wild trees of the forests rather than take the trouble to plant their own orchards. They cultivate the orange in the province of Buenos Ayres but it does not attain to such proportions as further north—in Santa Fé, Parana, Corrientes, &c., where the tree, even though abandoned to itself, develops into magnificent proportions. It attains its most luxuriant development, however, in the thirty-second degree of latitude. Those of Paraguay, Rioja, Oran, &c., are the most celebrated, but every tree, well taken care of, produces good oranges, whenever the sun and climate are favorable. It is a robust tree, subject to few diseases, and resists perfectly the drought and the locusts, those two worst plagues of agriculture in the Argentine Republic. It generally commences to bear fruit at the age of six years and is in full bearing at eight years. The trees will live a hundred years, and on good soil a large tree will produce over three thousand oranges per season. At Corrientes, where the cultivation of the fruit is carried on with some pretension to method and system, it is computed that, after deducting all expenses of gathering and shipment to market, an orange tree with a very superficial attention will yield $2 of revenue. At Santa Fé the crop is more valuable on account of the less loss and the diminished expenses of transportation, by reason of its greater proximity to the great centers of consumption, viz, Buenos Ayres and Montevideo.

The shipments to market from the upper rivers begin in April and May and run through July and August. The steamers which ply be-

tween Buenos Ayres and Asuncion, all return laden with the delicious fruit, a half a million of oranges sometimes being piled up on their hurricane decks, and are free during the voyage to all passengers who choose to partake. Fleets of smaller sailing craft also come down with full cargoes, sometimes occupying a couple of weeks in the passage. Arriving at Buenos Ayres the cargoes are sometimes sold to speculators for a lump sum; sometimes they are sold to marketers, who distribute them for sale through the interior towns at prices which, during the height of the season, range from 50 cents to $2 per hundred, according to their quality and the state of the market.

The value of the orange crop in the river Plate is greatly less than it would be if there were a larger population to consume it. But it is so perishable that it will not stand exportation to foreign market centers; and the local demand being easily satisfied, there is no sufficient inducement to undertake the special business of growing them upon a large scale—a remark which, with little qualification, may be applied to the raising of other kinds of fruit. Besides, it is too much the habit of the natives to live from day to day, and few of them have the patience or the resources to make plantations, which will require eight years before they come into full bearing. Some little movement toward the utilization of the surplus orange crop in the preparation of preserves and sweetmeats has been made, but the industry is yet very insignificant.*

THE OLIVE.—Throughout the Argentine Republic the olive (*Olea Europea*) is thoroughly at home. Owing to the genial climate, it grows everywhere and grows to be an immense tree. Whether under the heats of the subtropical parts of the country or on the table lands of the western sierras, it seems to flourish equally well. In the northwestern provinces I have seen olive trees whose trunks were almost of monstrous size. It is a tree, however, which endures frosts better than it does great continuous heat. In Europe, I believe, it does not grow north of 45° of latitude; and it lives, though it does not produce, in the equinoctial zone. It is a very common tree throughout this and the adjoining provinces; planted, however, generally as a shade tree, and but little attention is paid to the fruit. In the interior provinces, however, and especially Mendoza, San Juan, Rioja, and the Catamarca, a more careful attention to pruning and grafting renders the trees very productive. In Rioja the slopes of Arauco are renowned for their olives, which are large and of most excellent flavor. The trees are planted in orchards, from 10 to 20 feet apart, and are kept down by a proper amount of pruning and heading-in, but they need no further cultivation. They come into bearing in about five years after planting, but there is no limit to the number of years they will continue producting. As yet the fruit only in part supplies the local consumption; nearly all the pickled olives and all the olive oil being imported into the country from Europe—much of the latter being of inferior quality, if not, indeed, a vile and unwholesome imitation. It is very probable if the people of the Argentine Republic would take advantage of the soil and the climate the cultivation of the olive would develop into a very lucrative branch of industry, since it would not have to endure the severe winters which in Provence, in Spain, in Italy, and in the mountains of Algeria sometimes occasion so much damage to the crops. But it is with the

* I observe that I have omitted to mention the lemon, which, equally with the orange, is grown all over the republic, and is undoubtedly prolific, not merely producing two crops per annum, but actually at the same time maturing a continuous succession of crops. In the northern provinces is also grown the sweet lemon, which is eaten like an orange, and in the warm season is most refreshingly delicious.

olive as with the orange. It requires time and attention to secure its full product and to attain the best results, and these it does not receive. In the future, however, with the accession of laborers and agriculturists from Europe, who are skilled in the processes of olive cultivation, it is destined to become an important industry. At present it amounts to nothing.

THE FIG.—This is a favorite and generally distributed fruit of the country which grows indigenous. It thrives everywhere and gives the best results, especially in the regions bordering on the Parana River. The tree exhibits a wonderful development, reaching to a height of 20 to 40 feet, with a massive trunk sometimes 2 feet in diameter. In the provinces of San Juan, Rioja, and Catamarca the crop attains to large proportions and considerable quantities are dried, producing the figs of commerce (*pasas de hijas*), which find a ready sale all through the interior of the country. While the provinces bordering on the Parana produce abundantly of the fruit, no movement has ever been made to dry it, the people being content to consume the figs while fresh, though it is an industry which must sooner or later be developed. There are two kinds of figs grown in the republic—the white, which are properly called figs, and the violet or purple colored, which are called *brevas*. The first ripen in January, and are of a large size and better flavor than the latter. This second kind produces two crops per annum—one in December and the other in March or April. Being thus much more prolific, they are more generally grown, though they are not so suitable for drying. The fig is not cultivated at all, but in spite of the excellent climate it is left entirely to nature. With so much in its favor the crop might be made a most valuable one, and a most lucrative branch of foreign commerece, though at present, instead of being exported, nearly two-thirds of the dried figs used in the country are still imported from Europe.

THE GRAPE.—The grape vine grows indigenous in the Argentine Republic, just as the orange and the fig. As far north as the twenty-fifth degree of latitude it is very luxuriant and produces grapes of an exquisite flavor. The production is something marvelous, though so far as its cultivation is concerned there is room for great improvement. It may be said, however, that of all fruits grown in the region of the river Plate the vine is cultivated most intelligently. The first plants were, of course, brought from Spain, and until recent years the varieties were very few. Many new varieties, however, have of late been brought from Europe. There is a garden of acclimatization now in Mendoza which contains over a hundred new species brought from different parts of the Old World, all of which seem to be perfectly adapted to the Argentine Republic. In the riverine provinces, the *muscats* are most extraordinary producers. I have seen bunches that weighed from 5 to 6 pounds. Owing to the weight of their produce it is necessary that the vines should be carefully supported, and well protected from the winds. A much stronger variety, along the littoral, is a grape of bright violet color, of excellent taste, which bears enormously and holds its fruit to the last. The *chasselas*, here called the French grape, is not so generally grown, but it is a great favorite in some of the valleys of the Andes, in the province of Catamarca, where at an altitude of at least 6,000 feet it produces most satisfactory results. The same may be said of all the varieties of grapes which are grown in the provinces of Mendoza, San Juan, and Rioja, but nowhere in the republic are to be found such wonderful grapes, as on the hillsides and slopes of the latter province. One variety especially, called the *Torontez*, a cross as it were between

the *muscat* and the *chasselas*, is noted for its exquisite flavor. The vine grows with such rapidity in all the region of the river Plate and its products are so abundant and so excellent that the only surprise is that more attention has not heretofore been devoted to its culture. Within the last few years, however, the wonderful possibilities of the Argentine Republic as a raisin and wine producing country has commenced to attract the notice of European cultivators; and the provinces of the Andes are beginning to produce a quality of wine and brandy which have a merited reputation. No efforts have yet been made to produce wine in the country lying along the Parana River; but it is believed to be well adapted for this purpose, especially in the Banda Oriental, where the undulating ground would be very favorable, and on Entre Rios, which has a light, sandy soil that does not long retain humidity—a condition quite essential to the production of the best fruit.

The grape, both for the table and for the production of wine, is generally cultivated on trellises; and the vines are treated, as a usual thing, after the French and Spanish systems. This mode of growing the vine is all the more essential on account of the prevailing winds; and besides it better protects the fruit from the continuous summer heats. The wall is not so favorable, for the reason that it concentrates too much heat upon the fruit. Usually strong posts are planted in the ground, upon which are attached long poles crossing each other every few feet. The vines run on these supports, and the grapes are thus perfectly sustained and protected.

Although the climate is hot, yet in the province of Corrient and in the Republic of Paraguay the vine is successfully cultivated; though owing to the over abundance of rainy weather the grape is liable to rot. And this is still more frequently the case in the province of Tucuman, where the rainy season lasts from November to March; yet even there they raise very good grapes. As regards the valleys of the Andes, owing to their altitude and dry climate they may be considered the most favored portion of the Argentine Republic for the culture of grapes and the production of wine. These conditions extend northward to Bolivia, where in the valley of Cinté, situated in the twentieth degree of south latitude, are many renowned vineyards; and also to Peru, where in the valley of Pisco, only a little above the level of the ocean, is produced the famous brandy of that name.

All species of naturalized vines in the Argentine Republic bear grapes which are extremely rich in saccharine matter. When expressed they are very alcoholic, and consequently well adapted for distillation. In Mendoza and San Juan there is considerable done in the way of drying the grape, the *muscats* being the favorite variety for raisins. These, when prepared for market under the name of *pasas de uva*, are readily sold in all the provinces of the interior, and even Chili. I have tasted San Juan raisins which quite compared with the famous Malaga.

PALMS.—The only species of palm tree which is at all cultivated is the date (*Phœnix dactylifera*). The African species is grown in some places, but its dates are inferior to those of the Sahara tree. The *Pindo* palm, an indigenous date tree, which grows wild, gives a very sweet fruit, which in the province of Corrientes is called *Ita-pita*. It is an immense berry, which grows in huge bunches at the end of a long crooked stem, ripening at the beginning of winter. There are other varieties of palm trees growing wild, which also produce an edible fruit, such as the cocoa (*Palma astrocarium*), the yataï, (*Cocos yataï*) and the Cordova palm (*Chamædris argentina*). There is no doubt that all these species might be greatly improved by proper culture.

BANANA.—The banana (*Musa sapiernium*) thrives very well in the northern portion of Corrientes and in the Missiones and in Paraguay, and the valley of San Francisco and Oran, province of Jujuy. In the central and southern portions of the republic the winters are too cold for it. Under proper shelter it will, however, grow almost anywhere north of 35° south latitude; but it must be covered in winter, as it is seriously affected by frost and cold winds. It will bear fruit even in this province, but the heat is seldom sufficient to mature it. The only conditions necessary for its cultivation in the upper provinces are hot summers and shelter from the dominant winds, by planting belts of trees around it.

CHERIMOLIA. (*Andna cherimolia-anonacées*).—This grows to be a very beautiful tree in the northern portions of the Argentine Republic, producing a delicious fruit, which tastes like the rennet (*pomme de reinette*), with a little more bouquet. It is a sort of dark green apple, inclosing at its maturity a white pulp, full of seeds. It is grown in Salta, Tucuman, Catamarca, &c., as also in Paraguay. Being, however, a hardy tree it would thrive almost anywhere north of 30°, if proper care were taken to shelter it from the winter frosts. To produce well, however, it requires a warm exposure. It grows indigenous in Peru, where it is greatly appreciated.

PAPA.—This tree (*Carica papaya*) is called in this country the *Mamon*. It grows in almost all the northern provinces. The fruit is fleshy and pulpy, adhering to the skin, and is very palatable, whether eaten raw or cooked. No care is taken for the cultivation of the tree.

CACTUS-FIGS.—(*Cactus opuntia*).—In the province of Cordova there is considerable attention paid to the growing of cactus-figs, and there are many extensive orchards of the shrub. In other parts the people content themselves with gathering the fruit, which is found wild or along the hedges.

NISPERO. (*Psidium pomiferum*).—This shrub grows in all parts of the country, and is sufficiently robust to endure the frosts of the severest winters. Though little cultivated, the fruit is very delicious, having a taste of bitter sweet and a wonderful aroma. It is somewhat shaped like a pear but has a tough skin, and quite seedy.

THE POMEGRANATE.—In this country the pomegranate (*Punica granatum*) becomes quite a large and robust tree, attaining to the height of 20 to 30 feet. The beauty of its flowers and the exquisite taste of its fruit makes it generally cultivated; if properly cared for, the fruit produces an excellent *dulce*. The tree, when the suckers are allowed to grow, forms an excellent hedge.

PISTACHIO.—This tree (*Pistacia vera*) would thrive well in all parts of the republic, though at present it is seldom seen, except in private gardens. The tree is male and female. The fruit is of a crimson red color, and contains a greenish almond of an agreeable taste and a fine flavor, and consequently is much sought after by confectioners.

CACAO.—Owing to the susceptibility of this tree to frost, it is not often seen except in the northern parts of the country. It requires a hot damp climate.

COFFEE.—There are only a few places in the Argentine Republic where the coffee tree has been tried with any success. In the province of Salta, which is in about the same latitude as Rio Janeiro, there are, however, a number of plantations, which are said to be producing with the best results, and it is confidently believed that the industry is destined to assume considerable importance in this country. The plants with which the valleys of San Francisco and Campo Santo, in Salta,

were originally stocked were brought from Yungas, one of the hot valleys of the eastern slopes of the Andes, in Bolivia, and famous for the choice coffee it produces. I have also seen beautiful coffee plantations in the province of Tucuman, but the quantity produced is yet too small to be an object of commerce. In Paraguay likewise I have seen a number of quite extensive plantations, and the crops which they yielded were most satisfactory. The coffee tree, however, prefers a hot climate, and even in Paraguay I have seen the leaves sometimes nipped by the frost. In the extreme northern portions of the Argentine Republic there are many hot valleys, especially in Oran and Jujuy, where it never freezes; and there the cultivation, at once so easy and so lucrative, will doubtless one day be undertaken on a grand scale, but until the railway extension northward from Tucuman is completed to those localities there is no outlet for it to a market.

QUINCE.—This well-known fruit is so generally diffused over the region of the Plate that it grows well. In the provinces of Buenos Ayres the tree is so common that besides being grown for its fruit it is also used for fire-wood and for hedges. The yield of the fruit in this country is something marvelous, and of most excellent quality. The crop is unfailing, and is used in immense quantities for jellies, jams, and marmalades, which are quite an article of interior commerce. The most common variety is the pyriform, called Portuguese. It is preferred on account of the quality of the fruit and the vigor of the tree, which grows to a great size.

APRICOT.—Owing to imperfect cultivation, the apricot of the Argentine Republic is small; but the tree produces abundantly not only in the Andine provinces but along the littoral. Some newly-introduced varieties here in Buenos Ayres are doing well, and show what might be done, if proper care were devoted to the production of the fruit. The great thing to be guarded against is the frosty winds of spring, which destroy the blooms. The indigenous trees, while producing abundance of wood, are poor bearers.

PLUMS.—The plum tree does magnificently in this country, and unfailingly produces large crops. That pest of the plum tree in the United States, the *circulio*, is unknown here, and the fruit matures upon the trees, its only pest being the birds, which feed upon the fruit. The varieties are not the best which might be obtained, though I have seen some magnificent plums in this province. I am told that in Mendoza, San Juan, and the valleys of the Andes more attention is paid to the cultivation of plums.

CHERRY.—The cherry succeeds equally well as the plum, and many excellent varieties have of late years been introduced from Europe. In the interior large quantities of the fruit are stored and dried, or made into *dulces*.

PEAR.—The cultivation of the pear is very general, and the fruit is of a very superior quality. I do not know that I have ever seen finer fruit, except perhaps in California. That which is raised in Montevideo is especially fine. The trees grown are principally dwarf, introduced from France.

APPLES.—The apple tree produces in all parts of the Argentine Republic, but the fruit is not first-class. Even the best varieties in this country are lacking in flavor and juiciness. In some cases the fruit is almost as insipid as a sponge. I attribute this to the very mild winters, as the apple tree to produce an acid and good-tasting fruit requires sharp frosts. In the Andine provinces it might do better. The tree has become quite indigenous, and in the northern parts of Patagonia, along

the Rio Negro, there are immense forests growing in a wild state, the crop being annually gathered by the Indians.

ALMONDS.—This tree (*Amygdalus communis*) has not thus far produced very remarkable results in this part of the Argentine Republic, owing, I suppose, to the want of proper attention. On the contrary, in Mendoza, San Juan, it grows luxuriantly and yields most abundantly. With careful attention, however, it would be a valuable crop in any part of the country, either planted from the seed or grafted on other stock; and the small quantities which occasionally find their way to the Buenos Ayres market are fully equal to the best varieties imported from Spain or Algiers.

THE PEACH.—The peach tree abounds every where in the basin of the river Plate, and is even more common than the orange, extending not so far northward as that fruit but much farther to the south. In this part of the country it is a most important tree, and owing to the favorable conditions of the soil and the climate it is found everywhere growing wild. It reproduces itself with such rapidity that it forms veritable forests in the islands of the Parana River, where it is cut and brought to Buenos Ayres for fire-wood.* On all the estancias of Buenos Ayres and the Mesopotamia it is grown in large plantations or *montes*, as they are called, not merely for their fruit but especially for their wood. Some of these *montes* amount to hundreds of acres, one-third of which is cut every year, the tree reproducing itself from the roots for bearing purposes in three years. The life of the peach tree, however, is short, not exceeding fifteen or twenty years at the outside. The most common varieties are the clingstone, though in the last few years some of the very best kinds which are grown in Europe have found their way here. The indigenous peach is small and quite ordinary in taste, and in the season is sold in the market for a mere bagatelle. The better varieties are as expensive as oranges. Within the last few years considerable peach brandy of a very good quality has been made in the

* Captain Page, U. S. N., in his report on the exploration of the Parana River by order of the United States Government, thus alludes (page 67) to the peach forests on the islands forming the delta of the Parana River: "The innumerable small branches of the river serve a useful purpose by giving access to a labyrinth of islands, the wild fruits of which lead to quite an extensive trade with Buenos Ayres. During the season the fruiterers lay their barks against the banks and load from the overhanging peach and orange trees. The peaches are of excellent quality and constitute a large portion of the supply of the Buenos Ayres market. In the province of Buenos Ayres the peach is much cultivated for fire-wood, and a tree of three years yields no indifferent supply of both fruit and fuel. Its growth in the wild and free islands of the Parana and the perfection of its fruit without culture are facts too extraordinary not to impress a stranger who naturally asks the origin of these trees, well known not to be native. Some of the natives trace them to the forecast of the Jesuits; others to the boatmen who prior to the Jesuits frequented these islands and may, without purpose, have cast around the seeds. So vast is the yield of these trees that Buenos Ayres is not only supplied with fresh fruit during the season, but quantities are dried. Some enterprising citizens have also manufactured from them brandy of excellent quality; but this, like many other industrial projects in this country, has not been continued with perseverance or energy. When improved by grafting, inoculation, or the smallest degree of culture the fruit matures to very great perfection.

"A more enchanting spectacle than is presented during the fruit season by these islands can scarcely be imagined. Poets would have reveled in it as a scene of paradisical beauty. The lower banks are fringed with aquatic plants; the little channels are shaded by willow, whose long drooping branches form archways under which the boatmen moor their craft for the convenience of the siesta. On all sides the vegetation is tropical in its luxuriance, and the air is laden with delicious odors. The eye would be fatigued by the gorgeous mingling of colors presented by the rich foliage of the 'scibo,' the flower and fruit of the orange tree, the ripe tints of the peach, and the brilliant bloom of various shrubs and parasitical plants, were it not relieved by a verdure as refreshing as it is varied in its shades."

country, and last year a beginning was made in the canning of the fruit, the quality comparing quite favorably with that from the United States.

THE MULBERRY.—This tree (*Morus alba*) grows wild in various parts of the country and is a very prolific bearer. The black variety is more rare. The *Morus multicaulus* is now grown with excellent results in many of the interior provinces, and at one time the silk industry promised a rapid development, but in 1850 an epidemic completely destroyed the silk-worms. Since then the industry has not made much headway, though at the present time several enterprising Frenchmen are undertaking the production of silk upon a large scale, and every confidence is expressed, not only in the adaptability of the country for the industry, but in the certainty that it will in a few years attain to large proportions.* The specimens exhibited of native silk certainly could not be more promising. The tree is easily grown. It is only necessary to stick the slips in the ground and keep them properly moistened until they are well set. To break the winds they should be surrounded by a plantation of trees.

OTHER NATIVE FRUITS.

I have probably gone into more detail than was absolutely necessary in the enumeration of the various fruits and fruit trees of the country, but there still remain many other varieties which grow generally throughout the different provinces, such as the strawberry, the raspberry, the current, the chestnut, the hazel-nut, &c. Besides these, which, although now indigenous, were originally introduced from abroad, there are a large variety of native fruits, growing wild in all parts of the interior provinces. Among these I may mention the *algorrobo*, the *chañar*, the *mistol*, the *molle*, and the *piquillin*, whose fruits are all edible, and which, when fermented, produce a strong liquor which in the interior is greatly used, under the name of *chicha* or *aloja*, and is sometimes even made into a sparkling champagne. There are also in the Misiones, in Corrientes, in Paraguay, and the Gran Chaco, a number of other trees, such as the *iba-pohy*, the *iba-hay*, the *iba-porú*, the *iba-viyú*, the *iba-virá*, the *istpo*, the *nangapari*, and the *nangapiripoñi* (in the Guarani language *iba* means fruit), all of which produce varieties of fruits of excellent flavor, and which, growing everywhere wild, afford the natives and Indians articles of both food and drink.

NO INTELLIGENT FRUIT-CULTURE.

As will be seen from the foregoing, while the Argentine Republic everywhere abounds in almost every variety of fruit, such a thing as an intelligent fruit-culture is almost unknown, this branch of rural economy throughout the interior being followed as a simple routine; and that the only commerce in the crop, whether green or dried or preserved, is local

*An appropriate soil for breeding silk-worms is found throughout nearly the whole extent of the republic; the successful attempts which have been made in several of the provinces speak for us in this respect. They prove that this branch of rural economy will have a future only the more brilliant, inasmuch as it does not require heavy work, but may rather be considered as a domestic task. Consequently the women and children in the families of husbandmen can dedicate themselves to this occupation while the men are engaged in tilling the fields, as now happens in many families of the agricultural districts. That of San Carlos, in Santa Fé, is especially distinguished in this branch of industry, and already exports silk-worm eggs in considerable quantities. The mulberry grows magnificently in this country, and moreover our forests, it is said, contain several species of indigenous trees whose leaves are a most proper nourishment for the silk-worm.—*Republica Argentina, per Ricardo Nop*, p. 292.

and internal. There is no proper cultivation of fruit trees in the country nor of preparation of the fruit for market. Of late years a few nurseries have been planted here and there in the virgin soil; but, when once planted, all care of the tree is abandoned. They are seldom grafted or pruned, except in a few orchards near the city markets. The only industry which may be said to have really gained a permanent foothold is that of wine-making.

ARGENTINE WINES.

I have already incidentally referred to the production of wine in the Argentine Republic. The wonderful adaptability of the soil for the culture of the vine, and the luxuriance with which it everywhere produces, indicate that this is to be one of the great industries of the country. In some of the provinces it has already effected a foothold, under circumstances which could hardly be more promising. Indeed, so far as the production of wines for the table is concerned, the quality is so fair that the industry has now ceased to be an experiment, and large amounts of capital are already invested in wine-making establishments all through the provinces of Mendoza, San Juan, Rioja, and Cordoba. The best authorities on this point concur in saying that even France, which in its varying altitudes, its soil, its climate, and its atmospheric dryness is so favorable to the growth of the vine, is not better adapted to wine-making than the provinces named; and they predict that, in the not very remote future, the Argentine Republic will produce wines which, without equaling, perhaps, those of France in variety, will approach in all other respects the most famous brands of that country, or of any other part of Southern Europe. The vine especially loves a dry atmosphere, a stony soil, sharp winters, and hot summers; and it finds all these conditions in an eminent degree in the valleys of the Andes. The winters, it is true, are not vigorous, but the dryness compensates for the lack of cold, and, at least, vegetation is entirely suspended all through the winter season, thus greatly assisting the flavor of the grape. As I have said, the vines in all the districts referred to are cultivated on trellises, supported by transverse pieces elevated about 6 feet above the ground, with deep trenches passing between each row of vines which serve for the purpose of irrigation. When properly supplied with water the vines uniformly bear well. But the juice of the grape is a little too watery, so that for its proper preservation it is sometimes necessary to mix with it a little grape sirup made expressly for the purpose. Thus prepared it is capable of being transported without danger. It may be said, however, that every proprietor has his own method of fabrication, according to the nature of his vineyards and his vessels, and especially the class of buyers to whom he turns over the product of his vintage. There is no general method of fabrication. The principal product of the provinces of Mendoza and San Juan is ordinary red and white table wines, somewhat sweeter than the French but with much greater body. I have also seen on this market from the same provinces, as likewise from Cordoba, a most excellent dessert wine, very similar to sherry, and not at all inferior to Spanish wines of that name; also a red Carlon wine, which, however, has a somewhat mouldy taste, caused to a great extent by the casks in which it is placed. In fact, the general want of wood in the Andine provinces which is proper for cooperage necessitates in this important branch of the business the employment of old barrels and casks which have been used for other purposes, thus not infrequently deteriorating, if not ruining, the true taste of the wine. The freights from Chili or from

Rosario across the wide stretch of country are so high that they make the transportation of new barrels very expensive—so expensive, indeed, that the business would not pay to make use of them.

In some of the other interior provinces, the wine is preserved in substantially made earthen jars containing from 75 to 100 gallons. They are covered with thongs of hide, which are put on wet, and, when once dried, fit the cask exactly and give it great strength and solidity. For carrying the wine in the provinces of Rioja, Catamarca, and Salta, a small cask or barrel containing about 20 gallons is used; but, being made of the algorroba wood, it gives to the wine a peculiar taste, which does not seem to be disagreeable to the natives but which at first is quite repulsive to the European palate. Two of these casks balanced on a pack-saddle make a mule's load.

The valleys of the Andes, where the vine is most carefully cultivated, vary in altitude from 3,000 to 4,000 feet above the level of the sea. The best wines are probably those produced in the valley of Famatina and the hill-sides of Aranco, at an average altitude of 3,500 feet, and ranging between 28° and 29° of south latitude. On the hill-sides of Calchaqui a very fair article of strong red wine is also produced at an altitude of about 6,000 feet, but it lacks the softness and bouquet of that of Rioja.

The vintage in the Andine provinces occurs in the months of March, April, and even May, according, in great part, to the locality of the place. The cellars and presses are usually near the vineyards, and these are generally adjacent to the residence. The grape baskets are emptied through a window upon a platform, and are thence fed to the presses. Sometimes the stems are removed, but not usually. The juice is run into a large tank, whence it is afterwards transferred by means of buckets into different vats, where it is allowed to ferment. When this is finished, it is passed into smaller receptacles which are carefully sealed with wooden covers and then coated with mortar. When the wine is a year old, it is called *vino añejo* (old wine), and ready for use. It is very rarely drinkable before this time, unless a sirup prepared by a decoction of the must has been added to it, in which case it may be used almost immediately. This sirup is made by boiling the must and adding to it a small quantity of the ashes of the twigs of the vine. This lye at once precipitates the acid. In other cases nearly all the must of the vintage is heated; thus making a sort of boiled wine, which is used as a *dulce*, or for preserving peaches and other fruits.

The quality of the wine depends in great part upon the quality of the grapes, though sweet grapes, when vintaged in time, never make bad wines, even in the first months after their fabrication. It may appear strange to speak of using wine before it is fully made; but it is quite the local custom in some of the interior provinces to dispose of the product when it is new. There are now, however, a number of very extensive producers in Mendoza, San Juan, Rioja, and Cordova, who have large wine cellars, and who thoroughly prepare their wines for market before their removal. During the last few years these wines have found their way to Buenos Ayres; and their quality is so far superior to the great mass of the importations from France and Spain that there is no trouble in disposing of them at remunerative prices. Owing, however, to the excessive freights which must be paid for the long overland carriage of these wines from the provinces referred to, the foreign wines can still be sold at lower rates, even after a tariff of 40 per cent. has been paid upon them. The same may be said of the brandies produced in the interior, the quantity of which is every year in-

creasing. The process of making brandy is very simple. The wine is not used until it has passed through its first fermentation, and the distillation is in the open air, the coil of the still being constantly cooled by water. The brandy is of good quality, and its consumption in the interior provinces is yearly increasing in preference to the imported article. Its consumption in Buenos Ayres and along the river would be much greater if it could be sent here at a cheaper freight. The transportation of these wine products of the Andine provinces is, however, so expensive that the industry is greatly retarded and kept back. So soon as railway communication is established, it will undoubtedly receive a greater impulse. With greater improvements in the manufacture, and cheap freights, it is my opinion that the Argentine Republic will in no great while come to the front as a wine-producing country.*

OTHER INDUSTRIES.

In this city there is an extensive manufactory which produces from the "bitter" orange a beverage called "hesperidena," which has a delicious *bouquet* and is a tonic of very delicate bitter. It has a large sale throughout this part of the Argentine Republic, and in Paraguay, Uruguay, and Brazil. The oranges are gathered from the forests growing wild on the islands of the Parana River.

There is also in this city a manufactory of vegetable oils, which is doing a large business in making olive oil for the home market. I have to say, however, that the oil is produced not from the olive, but from the peanut (*maní*) and colza, immense quantities of which are grown in the adjoining province of Santa Fé. It may be said in extenuation of the fraud that the product at least is *pure*, and far preferable to much of the stuff, made from all sorts of uncleanness, which is imported and sold here under the name of "French olive oil."

In the preparation of fruits for market, as we have already seen, there is scarcely anything done. Some few persons have undertaken the canning of peaches, pears, strawberries, and other small fruits, and have been in every respect successful in their experiments, but the amount annually canned is too small to be of any significance. Considering the general predilection among the natives for sweetmeats one would have supposed that the business of canning the fruits of the country would ere this have become an important manufacturing industry. In the absence of the domestic article the great part of the canned fruits consumed here comes from countries much less favored by nature than

* I translate what Señor Ricardo Nap says on this subject in his *Republica Argentina*, page 290: "The culture of the vine must be of great future importance, although as yet indigenous wine is rarely found in the coast towns. On the one hand, the wine product of Mendoza, Rioja, Catamarca, and San Juan is consumed there or in the neighboring provinces, whilst on the other hand the must is made with so little intelligence that the wine will not in general support long voyages. Even in California the vintages had to struggle for some time against similar difficulties, and, as yet, few experienced persons have been occupied here in this promising business. The culture of the vine and the preparation of the wine are in general the same that they were in the time of the Spaniards one or two hundred years ago. Without doubt the vineyards have degenerated in part; they ought therefore to be renewed by plants from Europe, or, better yet, from California, but it would be better still to propagate among the vintagers a knowledge of this branch of cultivation. The small consideration given to the tillage of the vine and other fruits does not arise from the fear of labor being lost, but rather that some time must elapse before it can produce favorable results. It is the prevailing desire to have quick profits; and therefore there is less inclination to invest money and labor in a business which requires years to give returns, than to raise cattle, which, it may be said, do so almost immediately."

the Argentine Republic, when with a little enterprise the home market could not only be supplied but large quantities could be exported. I believe it promises a rich harvest in the future.

So, too, and especially with reference to the cultivation of olives, figs, and raisins. There is an immense opening here for the culture and preparation of these articles for market, not only for home consumption, which is large, but for export to the markets of other countries. As I have said, excepting in the far interior provinces of Mendoza, Rioja, San Juan, and Catamarca, no figs, olives, or raisins are put up for market in the republic, and in these provinces the amount of such industries is so small as only in part to meet the local demand. It is very seldom that they find their way to this port, much less abroad.

IMPORTATIONS OF FRUIT AND FRUIT PRODUCTS.

Indeed it may be said that there is nothing whatever in the fruit line in this country which finds a market abroad, while the amount of the importations from foreign countries, and especially from France, Italy, and Spain, which are annually consumed in this country reaches to about one-eighth of the entire imports. I compile the following figures, from official sources, of the importations of liquors and prepared fruits for the last year:

Imports of liquors and dried fruits for 1883.

Articles.	Amount.	Value.
Alcohol and liquors ..... liters..	7,546,170	$1,091,618
Alcohol and liquors, bottles ..... dozens..	211,612	959,505
Wines:		
Champagne, bottles ..... do....	12,585	46,573
Sherry, bottles ..... do....	1,377	8,011
Port, bottles ..... do....	11,096	64,070
Other, bottles ..... do....	54,624	223,666
In casks ..... liters..	62,863,267	6,338,504
Olive oil ..... kilograms..	3,366,502	1,067,098
Olive oil, bottles ..... dozens..	6,246	18,561
Olives ..... kilograms..	338,518	47,357
Coca ..... do....	132,205	47,629
Sweetmeats	.....	82,164
Dried and preserved fruits (figs and raisins)	.....	345,113
Total	.....	10,342,869
Total amount of imports in 1883	.....	80,435,824

These returns show in a remarkable manner the utter neglect of the people of this country to take advantage of the marvelous wealth of fruits, which nature, almost without labor, so abundantly vouchsafes to them. It seems almost incredible that, with such a prolific soil and a climate so incomparably benign for the growth of every variety of vegetable product, the Argentine nation should be so utterly dependent upon other countries for such supplies.

The only excuse they give for the indifference they have shown in all these years to the cultivation of fruits, for which there is always such a demand in all the markets of the world, is that the grazing of cattle and shearing of sheep, which it cost no care to raise, produced quicker returns and more generous profits. The fruit industry, as compared with that of wool and hides, has seemed to be too insignificant to claim their attention, and they have been steadily paying Europe for what they could a great deal better produce themselves.

THE SUGAR INDUSTRY.

As somewhat germane to this subject I would state that besides the preparation of fruits for market the Argentine Republic in some of its upper provinces offers wonderful possibilities for the cultivation of the sugar-cane and the production of sugar. In Tucuman, Salta, Santiago, Jujuy, and Corrientes this industry has already made a beginning under circumstances which are most promising. In the first-named province especially there is already a large and constantly increasing plant in mills and other necessary machinery, much of which is the most approved which France affords, and the product last year is reported to have amounted to 225,000 pounds of very superior sugar. In the other provinces named the industry has not yet assumed such extensive proportions, while the methods of cultivation are not so approved and the manufacture is even less rational; but the quantities produced are quite sufficient to meet the local demand, and the promise for the future is most flattering. A thing which may be here mentioned in favor of the sugar-cane of these countries is that it is perennial and does not have to be planted annually.

CULTIVATION OF COTTON.

The cultivation of cotton is one of the oldest industries known to this country; and it is a historical fact that during the time of the Spanish viceroyalty there was more cotton produced in nearly all the interior provinces than there has been since. At that time these dependencies of the Spanish Crown were hermetically sealed against all outside commerce; and the people had to depend in great part upon themselves for cotton enough to weave the garments they wore. Since they have been able to import the cotton cloth from abroad, the industry has greatly declined throughout the Argentine Republic. In some of the upper provinces, however, and in the Gran Chaco and Misiories, as also in Paraguay, some attention is still paid to the cultivation of the plant; in all of which places more or less of domestic cottons are annually woven by hand-looms. During our civil war various spasmodic attempts, assisted by bounties offered by the British Government, were made to stimulate the growing of cotton upon a grand scale; and we are told that "Liverpool brokers declared that the cotton of the Argentine Republic was superior to the best produced in the south of the United States;" but if so, the industry did not succeed; and to day not a pound is exported from this country,

GROWING OF RICE.

In the districts above referred to, as also in the provinces of Tucuman and Santiago, I am told that the facilities for the cultivation of rice are most excellent; and it is predicted that the industry will some day be of great importance. I have thought that the low islands which for 50 or 60 miles above Buenos Ayres form the delta of the Parana River are admirably adopted for the culture of rice; but as yet, I believe, no attempt has been made to reclaim them for that pupose.

TOBACCO.

Tobacco does well in all parts of the republic, and in the interior provinces more or less attention is devoted to its cultivation; but the

amount produced does not supply, except in part, the immediate local demand. In Corrientes and the Gran Chaco I have seen magnificent tobacco fields; but it is generally assumed that the best quality is produced in Paraguay. A writer on the subject of the facilities for its production in this country says:

It cannot be doubted that but few years will pass ere the production of tobacco in the republic will compete with that of the United States in quantity, and with that of the West Indies in quality.

CONCLUSION.

I have thus, at the imminent risk of being prolix, undertaken to give a general review, derived from the most authentic sources at my command, of the physical configuration of the Argentine Republic, the vast range and varied conditions of its climate, the constituent elements of its soil, its rainfall, atmospheric humidity, its seasons, and its wonderful adaptability for an extended fruit culture; concluding with a detailed description of the fruits grown in the country, the present state of its wine and other fruit industries, and the prospects of their development and advancement in the future. As I have already premised, there is perhaps but little in all this which can in any great degree "help our agriculturists to engage in the cultivation of fruits" with any increased understanding; but it may tend at least to give the people of the United States a better appreciation of the extent, value, and outlook of the fruit industry in this part of South America, and hence not be without some general interest.

E. L. BAKER,
Consul.

UNITED STATES CONSULATE,
Buenos Ayres, September 10, 1884.

SWINE RAISING IN DENMARK.

REPORT BY CONSUL RYDER, OF COPENHAGEN.

I have the honor to present herewith a report on the feeding and treatment of swine, which is here recommended as being most advantageous.

It is self-evident that all farmers who wish to obtain the largest net results from their pursuits, must give close attention to all its branches, with due conformity to the relative conditions of their local surroundings. The breeding and fattening of swine is unquestionably a branch capable of yielding favorable results, when the capital employed therein can meet with speedy returns, and in order to arrive at these results, it is absolutely necessary that the animals should receive careful, appropriate treatment.

Swine are consumers both of animal and vegetable matter. They are noted for their rapid growth, quick blood circulation, and irritable temperament, together with a great propensity to idleness and generating of fat. When this natural propensity to idleness is indulged, together with a bountiful course of diet, it will be found that even the muscles of the animal become penetrated with fat.

It is thus necessary that they should be treated with great care; otherwise any slight deviation may lead to bad results.

Special attention should be devoted not only to feeding and treatment, but also to the arrangements and keeping of the styes in good condition.

Swine devour their food with great avidity. The front teeth only do the duty of picking up the food; the side teeth, from their peculiar formation, are unable to masticate it in a sufficient degree or to mix it with the saliva. In order, therefore, that the food should afford the required amount of nourishment, it should be given in an easily digestible form.

Thus it will be of primary importance that it is prepared in such manner as that it can be easily chewed and dissolved. It has been found that corn, when given to swine in its entire state, has passed away in an undigested condition to the extent of nearly 50 per cent.

In preparing the food, it is advisable that it should be first boiled or steamed, and this more particularly as relates to vegetable substances. The expense and labor hereby incurred will be amply repaid by the easier digestion of the food and the consequently greater thriving of the animals. Where boiling or steaming may not be possible, the corn and pulse should first be ground or bruised, and then allowed to soak before use; and the roots should always be cut into small slices. Unless the food is thus carefully prepared not only will the animals suffer in health but a material loss will be sustained in the reduced nourishing properties of the feeding stuffs.

From the various fodder materials at the farmer's disposal, a careful selection should be made of those containing the most nutritious matter.

He will thus avoid undue waste, or an insufficiency as well as too uniform course of diet. Chemical tables with analysis of the various feeding stuffs will be sufficient guide to him in making his selection.

To what extent it will be necessary to resort to extraneous kinds of fodder, must of course depend upon the farmer's own supplies; but it may be as well to mention those which have proved to be eminently useful and remunerative.

Maize or rice meal mixed with potatoes or roots, and especially when a small quantity of animal matter is added, have shown strikingly favorable results.

Linseed cake is a very useful fodder for the pregnant or suckling sows, as well as for young pigs, and when linseed cake meal can be procured of good unadulterated quality, it is even to be preferred. It assists greatly toward good milk production; a too bountiful foddering with linseed cakes is, however, liable to cause diarrhea and indigestion amongst the young pigs.

Oil cake and oil cake meal should always be given in a dissolved state; it is best when prepared with warm water as a kind of porridge, when it will be more easy of digestion.

Animal food is also, owing to its richness of albuminous matter, thereby tending to promote a rapid growth, to be recommended in swine feed; this food should, however, be given at the same time with a sufficient quantity of other feeding stuffs, free nitrogenous matter, so that the food may be rendered easy of digestion. The animals will also be found to prefer it when mixed with other feeding stuffs. It may be used together with potatoes or bruised barley, and about one-half pound of animal matter may be reckoned for every 100 of the live weight.

Of the farm produce, grain unquestionably must be placed in the foremost rank for feeding purposes, and both oats and barley, as affording a wholesome diet, are of great importance as swine feed, whilst oats especially will be found to have a very favorable influence on the sow's milk. Barley is noted for its fattening properties, as it produces firm fat and meat; it is likewise an excellent feed for the young pigs, but as

both (barley and oats) cereals have a hard skin, they should first be either steamed, bruised, or dissolved.

Rye, on the other hand, must be used with great caution. It is of an exciting nature and can easily produce bad consequences. In the final stages of fattening, bruised rye has, however, given good results, from its tendency to promote great firmness of fat and good flesh. The intrinsic value of the wheat and rye brans will depend in a great measure upon the mill from which they are obtained. The better the mill, of so much less worth will the bran be found. These brans should always be well soaked, so that the hard skin substance may be more easily assimilated by the digestive organs.

Husk cereals are also largely employed in swine feeding, and, from their great wealth in albuminous matter, afford a very good fattening fodder.

Peas especially are highly estimated; it is, however, advisable that these should first be made to sprout, then dried, and afterwards bruised. Great care must be taken, when feeding with husk cereals, to watch the animals closely, as they are difficult of digestion, and easily produce disorder of the digestive organs, especially among the young pigs. It is best to give them in conjunction with roots.

The sows should never be fed with them, as they operate injuriously on the milk organs. Sucking pigs are also liable to obstruction from this food.

Of the various kinds of roots, potatoes are the most to be recommended. They should, however, never be given when sprouting, as the sprouts contain narcotic matter, injurious to digestion, and when taken in large quantities become even poisonous. Neither is it proper to feed with them in a raw state, when they are more difficult of digestion. They should be first boiled or steamed, but not too much. The results of several experiments which have been made public plainly show that it is much more advantageous to feed with the boiled than with the potato in a raw state. For example, on the 4th of March, 10 young pigs from the same litter were divided into two groups when they were two and one-half months old, of which one lot was fed with boiled and the other with raw potatoes. Each group received in addition 2½ pounds of barley; which to the first was given in a boiled and to the other in a bruised shape. On the 1st June the increase of weight to the pigs which had received it in a boiled condition was found to be 173 pounds, while for the other group it was only 115 pounds.

Other descriptions of roots also afford good feed; but they should always be finely cut up. Animal products are also well adapted for the use of swine when given in appropriate form and wholesome condition. Milk is the best known of these products; but it will scarcely answer to feed with sweet milk in a pecuniary point of view; whereas buttermilk or whey will make ample returns. Whey, however, should not be given in too large quantities, and should always be given in conjunction with solid food.

Slaughtered meat is an excellent feed, especially for fattening purposes. It is best when given in the boiled state, and as a matter of course the meat from diseased animals must never be given.

A little salt to assist digestion may daily be given with much advantage to swine.

From 15 to 20 grains of finely pulverized and steamed bone-meal have been found to assist greatly in the rapid thriving of the animals.

The feeding hours must be carefully attended to, as the animals get accustomed to them and become restless when their food is not served

at the usual hour, and this acts detrimentally in their development. As a rule it will be found best to feed two times in the course of the day, though it may be given four or five times a day to the sows or pigs being fattened, as they thereby retain a greater desire for their food and do not overload the stomach. The food must always be given in a clean, wholesome condition, and the troughs or tubs where the food is prepared must always be kept clean. When any spoiled or sour food is left behind in the troughs the fresh food will soon turn sour also, so that it both loses in quality and taste. In the summer months it will also be advisable to have good, clear drinking water at hand for the use of the animals.

Swine suffer from heat like other animals, and require, therefore, opportunities for refreshing themselves. It has been found that when they have a ready access to fresh water they often drink of it and then go quietly to rest.

Next to a proper mode of feeding, attention should be devoted to the care of the swine, as any improper treatment can have the effect of counteracting all exertions for a good stock raising and all the careful feeding will have been to little purpose. The main point is a careful attention to the skin, so that the respirations and exhalations can pursue their proper course. A sound state of the skin tends to activity of all the inner organs. There will be more desire for food, and the constant itching and scrubbing of the swine arising from diet will be obviated.

That they are greatly improved by cleanliness will soon appear in their general appearance and the fineness of the bristles. Experience has shown that the food has been more profitably consumed by swine kept clean than by those which were uncared for.

For example, six swine of equal weight were fed for seven weeks on a perfectly uniform diet, three of them being daily kept clean with comb and brush, while the remaining three were left in an unclean state. The result showed that each of the cleansed pigs had increased by 30 pounds more in weight than the others.

The cleansing can be most conveniently done by simply washing, which can be repeated, especially in the summer months, several times in the course of the day. The body will thus be kept cool, greatly conducing to the animal's health. A diligent attention to washing may frequently be the means of warding off disease. On a farm where the swine were daily washed during three years there was not a single case of hog disease, although it was very prevalent in the neighborhood. Exercise in the open air is necessary for the health or development of the young being thereby promoted and the fertility of the breeding animals increased.

The object is best attained when the styes are so arranged that the animals can there find proper shelter from the burning sun.

When the swine are allowed to roam about in the fields, it should be seen that they can there pick up sufficient food, otherwise they must at the same time be supplied with extra food. When sending the animals into the fields, care should also be taken, when trees are wanting, that suitable sheds are constructed for their use; in which they may be able to take shelter from the rays of the sun or from boisterous weather.

As swine, however, pass the greatest part of their lives in the styes, these should be of such description that they can feel perfectly comfortably in them, for then only will they thrive. The position of the sty should be such that it is neither too much exposed to the cold winds nor to the heat of the sun; and this, perhaps, may be best attained with

a frontage to the west or east. The sty should also be light and airy as possible, and should therefore have a sufficiency of openings.

A good ventilation is absolutely necessary; but as this cannot always be obtained with window openings, on account of too great draught, a vertical ventilator may be found most suitable for the purpose.

The temperature of the sty should be kept as near as possible from 8° to 12° R. Too great heat is liable to bring on blood disturbance; and when the sty is too cold the swine require too much of feed to keep up the necessary warmth of the body.

The sties must also be of proper dimensions, according to the numbers and ages of the occupants; and, as before said, cleanliness being of main importance, the sty should be so constructed as to permit of its being cleaned with ease.

In dirty and wet sties the skin of the swine will be seen to be covered with a crust of dirt, which causes restlessness; and the pores become obstructed and the previously mentioned ill results will soon show themselves.

Rats are frequent visitors to the sties, and are a great source of trouble. They have been one of the causes of the outbreak of the trichinæ disease, and they likewise destroy the floors, which have to be kept in constant repair. All possible means should therefore be used to get rid of these destructive visitors; and this will doubtless be best attained by constructing the floor in a solid manner with bricks and cement, and on no account with wood materials, as the urine penetrating the wood pores soon causes it to decay, thus creating an excellent shelter for the rats.

HENRY B. RYDER,
Consul.

CONSULATE OF THE UNITED STATES OF AMERICA,
Copenhagen, January 21, 1884.

OPENING OF THE ARLBERG RAILWAY.

REPORT BY CONSUL-GENERAL WEAVER.

Referring to my dispatch No. 363, under date of December 1, 1883, descriptive of the construction of the Arlberg and Vorarlberg Railway,* I have now to advise you of the completion and official opening of the railway on the 20th instant, when the line extending from Innsbruck to Bregenz, on the Lake of Constance, was given over to freight and passenger traffic.

The ceremonies were of a very brilliant character, attended by the Emperor, the Austrian officials, and invited foreign guests. The imperial train left Innsbruck at 9 a. m., followed by two others conveying the officials and guests, who were received with great demonstrations of joy at all the principal stations on the line, particularly at Imst, Landeck, St. Anton, Langen, Bludenz, and Bregenz, covering a distance of 195 kilometers.

The festivities closed with a grand illumination and banquet at Bregenz, at which the Emperor, the highest state and city officials, the representatives of Bavaria, Wurtemberg, and Switzerland, and chief guests participated, at which toasts on the rapid and successful construction

* Published in Consular Reports No. 38, p. 654.

of the tunnel and its prospective results were given and replied to with unusual animation and eloquence.

As was stated in my former dispatch, this line will fill a long-felt want in the empire for more direct communication with the province of Vorarlberg, also with Switzerland and France, and thence to the northern seaboard without the necessity of passing through any portion of Germany.

The immediate effect will be to reduce railroad rates, coming, as it does, more particularly in competition with the Bavarian lines running from east to west. It is hoped that Hungary may be aided now to push her grain and flour products with greater facility toward Switzerland and possibly France; but, on the other hand, the attendant cheapening of rates may enable American exporters likewise to push their products more generally and more successfully into the Empire of Austria-Hungary with the just prospects of realizing profitable margins.

JAMES RILEY WEAVER,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Vienna, September 22, 1884.

COTTON-MILLS IN SANTOS, BRAZIL.

REPORT BY CONSUL WRIGHT.

As pointed out in one of my previous dispatches, the manufacture of cotton cloth is increasing in this province, and I am now able to present the following list and particulars of the mills, their location (municipally), &c.:

Carioba.—Forty looms. Capital, 200,000 millreis. Water-power. American machinery. Makes coarse and plain twilled cloth; also seamless sacks. Has apparatus and machinery for dyeing.

Barros.—Sixty looms. Capital, 300,000 millreis. Steam-power. English machinery. Makes coarse plain and twilled cloth; also domestic and shirtings. Has dyeing rooms; also machinery for stamping calicoes—calicoes, imported cloth.

Tatuhy.—Eighty looms. Capital, 400,000 millreis. Steam-power. English machinery not yet worked up to full capacity. Makes coarse plain and twilled cloth and shirtings.

Jundiahy.—Forty looms. Capital, 200,000 millreis. Steam-power. English machinery. Coarse, plain cloth.

Sorocaba.—Fifty looms. Capital, 250,000 millreis. Steam-power. English machinery. Makes coarse plain cloth and shirtings.

Salto de Itu.—Sixty looms. Capital stock, 250,000 millreis. Water-power. English machinery. Coarse plain and twilled cloth and shirtings.

Itu.—Twenty looms. Capital, 150,000 millreis. Steam-power. American machinery. Coarse plain cloth. Oldest cotton mill in the province, running fifteen years.

Piracicaba.—Eighty looms. Capital, 300,000 millreis. Water-power. English machinery. Coarse plain and twilled cloth, also shirtings. Has dyeing rooms.

Uberaba.—A city in the province of Minas Geräes, near the limit of, and sends its produce, &c., through this province and port. This factory uses 40 to 60 looms. Capital, 300,000 millreis. American and

English machinery; not yet completed, but makes plain coarse and twilled cloth and shirtings.

Santo Antonio do Machado.—Forty looms. Capital, 200,000 millreis. Water-power. American and English machinery. Makes plain coarse and twilled cloth.

I learn that capital is now being raised for putting up and working the largest cotton mill in Brazil, at the city of São Paulo, the capital of this province. The company, it is said, is already formed and general details being studied out, but where the money for all these many enterprises is to come from is an enigma in the actual state of the financial condition of the country and the requirements of agriculturists at the opening of a crop or harvest.

If the commission merchants here had adhered to their legitimate business, instead of, along with many planters, speculating in Havre and New York, hoping to corner the consumers of coffee, this city and province would not have lost about 20,000,000 millreis, one half of which has been directly remitted, and the balance must be in one way or another sooner or later, abroad, finally to find its way into the Bank of England.

WM. T. WRIGHT,
Consul.

UNITED STATES CONSULATE,
Santos, 30th August, 1884.

AFFAIRS AT GIBRALTAR.

REPORT BY CONSUL SPRAGUE.

EFFECTS OF THE CHOLERA SCARE.

The apprehensions I entertained at the beginning of last July, regarding the probable curtailing which the general navigation and commerce of Gibraltar were likely to experience consequent on the establishing then of a sanitary cordon against this fortress, have been fully realized; and there does not appear to be any indication of the situation improving until the raising of this quaratine restriction, which has been even classified as a very severe measure on the part of Spain towards a friendly neighbor, so long as Gibraltar enjoyed perfect good health, and Great Britain was free from the suspicion of any malady of an epidemic form.

The strict quarantine regulations imposed by the Gibraltar Board of Health against all arrivals from infected countries on the appearance of cholera in Europe had already diminished the number of steam and sailing ships as well as coasting crafts arriving at this port; but the establishment of a sanitary cordon by land against this fortress following soon after rendered the situation one of still greater detriment to its general commercial interests.

AMERICAN FLOUR AT GIBRALTAR.

Nor can I announce any improvement in the commercial navigation of the United States connected with this port; and as regards the demands here for any description of merchandise, the produce of our

Union, I can state that only one article seems to have met with some favor, and that is flour, supplies of which are being imported into this market direct from New York, though by British and Italian steam vessels.

This improvement in the demands for American flour has only sprung up since the appearance of cholera in France.

Hardly had the epidemic been declared at Toulon and Marseilles (from which latter port this market has generally been regularly supplied with flour of every quality), when the Gibraltar Board of Health decided turning off all arrivals from French ports in the Mediterranean, besides imposing a lengthy quarantine observation upon those coming from Algeria.

These severe restrictions against France at once hurried off cablegrams to New York from various commercial firms engaged here in the flour business, who ordered immediate purchases and shipments of the article, and in less than twenty days this market became the recipient of American flour of various grades, and in quantities sufficient to meet the demands for several months, offering a striking instance of the almost impossibility of the existence of scarcity of any article of important consumption in any market while the telegraphic wires be in working order and steam vessels at hand to convey the cargo abroad.

So long as Marseilles and other French Mediterranean ports continue to be treated as infected ones there is every probability of American flour being one of the few articles of current sale here during the present partial suspension of trade. Unfortunately, however, the demands for the article have considerably diminished, and the ruling prices are moderate on account of the actual sanitary cordon established by Spain against this fortress, preventing the usual daily entrance into this garrison by land of some four thousand visitors, who regularly consumed large quantities of bread and other provisions during their daily visits here. Most of these visitors were employed as coal heavers, masons, carpenters, barbers, shoemakers, &c.

The crisis is therefore beginning to be felt here, especially by a serious decline in the important trade in steam coal; also by the general falling off in the demands and sale for almost every kind of American produce, with the single exception of flour already referred to.

WATER-CONDENSING IN GIBRALTAR.

One of the most important local improvements that have taken place in this fortress during the present year has been the setting up of two condensers, which are capable of turning out 18,000 gallons of water in twenty-four hours. These condensers are the property of the war department, and are protected and provided by a bomb-proof cover; a wise forethought, in the event of a siege or other emergency, where access to Spain and the North Front would be cut off. The water is condensed and aerated by these two condensers from water drawn direct from the sea.

By authority of the governor, these condensers have been lent to the sanitary commissioners of Gibraltar, as a temporary measure, and they are authorized to sell this water to the public from the condensers at 5 cents per 16 gallons.

The present consumption of condensed water is about 9,000 gallons daily, and the price at which it is sold to the public is somewhat under the cost of production; which is a great benefit, especially to the poorer

classes, who, in the absence of any regular supply of rain or potable water, are able to meet their most pressing wants by this mechanical appliance, at a cost little more than nominal.

HORATIO J. SPRAGUE,
Consul.

UNITED STATES CONSULATE,
Gibraltar, October 3, 1884.

Statement showing the navigation at the port of Gibraltar for the year ending September 30, 1884.

Flag.	Entered.						Cleared.					
	Steamers.		Sailing vessels.		Total.		Steamers.		Sailing vessels.		Total.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Austrian	64		10		74		61		10		74	
Belgian	11				11		11				11	
Brazilian	1				1		1				1	
British	4,019		180		4,199		4,011		172		4,183	
Danish	42		8		50		42		8		50	
Dutch	52		4		56		52		4		56	
Egyptian	1				1		1				1	
French	177		16		193		177		13		190	
German	158		13		171		156		12		168	
Greek	69		6		75		68		5		73	
Italian	84		52		136		83		48		131	
Norwegian	168		27		195		168		25		193	
Portuguese			35		35				30		30	
Roumanian	2				2		2				2	
Russian	13		22		35		13		20		33	
Spanish	146		18		164		142		15		157	
Swedish	66		17		83		66		14		80	
Turkish	1				1		1				1	
United States*	1	616	20	11,419.72	21	12,035.72	1	616	20	11,419.72	21	12,035.72
	5,075		428		5,503		5,059		396		5,455	

*From the United States, 6; Spain, 5; Sicily, 3; Peru, 3; Portuguese Possessions, 2; Italy, 1; Algeria, 1.

COMMERCE OF RIGA.

REPORT BY CONSULAR AGENT BOMBOLDT.

EXPORT TRADE.

That the trade of Riga, in the year under review (year ended October 1, 1884), compared with former years, has had to fight with unfavorable circumstances, is not to be denied. Although the crop of last year was pretty good, and a large balance left for export, still the considerable supplies from the East Indies, Australia, and United States to such an extent glutted the foreign markets that the inferior Russian grain had no show at all, and prices went down in consequence, leaving no margin. The very low freight rates ruling, however, did in some way support the exporters in these provinces in effecting sales; but thereby the ship-owners have sustained serious losses, and in fact many of these have now preferred to lay up their ships rather than let them run at such ruinous freights. At the present time the prospects look

very gloomy, and transactions in grain for autumn delivery are quite insignificant and any large export can hardly be expected. The crops this year looked very promising, but in the interior of the Riga district frost during the last days has done considerable damage in places where the grain had not been removed from the fields.

The past winter was rather mild, and the ice-breakers were able to keep the Düna River up to town open, so that the navigation was not interrupted. This, however, did not materially augment the exports from this port, as the supplies of grain, as always during the winter, were directed for shipment to our neighboring port, Libau, where the navigation seldom is impeded by ice.

THE IMPORT TRADE.

The import has also moved within narrower limits than preceding years, and the high protecting duties must of course tend to extend the Russian home industry and reduce the circle and extent of some articles hitherto imported. The low rates of exchange have also been against importers, and it would appear that the buying power on the part of consumers has been somewhat weakened.

From the 1st of January up to this date there have arrived in this port 1,042 steamers and 866 sailing vessels, mostly of the English, Scandinavian, and German flags. I regret not to have to chronicle any visit during this year of any vessel flying the Stars and Stripes.

Petroleum.—The import of this article from the United States is on the decline, as the producers in this country have now nearly succeeded in refining the Russian oil so well that it satisfies the demand of consumers.

Salt.—A large trade in this article has lately sprung up, and large steamer cargoes are now sent from the Black Sea to the Baltic provinces, where formerly Spanish and English salt only was used.

Dye-wood extract.—Manufactories have been erected here and in Libau, and several large cargoes of logwood have arrived here from Hayti and Jamaica.

Duty on coals.—Since the 1st of July, a duty equal to 25 cents per ton is levied upon coals imported into the Baltic provinces, but the same being so insignificant it will hardly affect the trade or the manufactures in the use of this article.

N. A. BOMBOLDT,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Riga, October 1, 1884.

TRADE AND COMMERCE OF THURINGIA.

REPORT BY CONSUL MOSHER, OF SONNEBERG.

EXPORTS TO THE UNITED STATES.

During the quarter ended September 30, 1884, there has been an increase of $35,304.58 in the value of shipments from this consulate to the United States as compared with the corresponding quarter of last year. This increase has been made as follows: In china goods there has been an increase of $46,138.44; in dolls and toys, $10,151.63; in drugs, $142.52; in fancy earthenware, $974.87; in kid gloves, $1,245.73; in

raw barytes, $999.13; in slate pencils, $1,646.30; in smokers' articles, $1,590.34; in wafers, $271.42; in miscellaneous articles, $499.79.

There has been a loss, on the other hand, in baskets, of $1,694.66; in glassware, $1,344.64; in guns, $1,388.73; in hardware, $1,011.61; in hosiery, $14,688.65; in liquors, $535.14; in mineral water, $1,770; in musical instruments, $1,484.99; in paints, $898; in papier maché and fancy goods, $2,007.95; in seeds and plants, $1,531.22.

The total gain, therefore, has been $63,660.17, and the total loss $28,355.59, making the net gain as above $35,304.58.

GENERAL FOREIGN TRADE.

The conditions of business do not differ materially from what they have been during the last five or six years.

The merchants and manufacturers in the district express themselves as reasonably well satisfied with the situation and prospect, the most that they complain of being the intense competition that exists among themselves. The trade with France is perhaps a little better than it was the last year, while with England there is no material change. In the case of the United States there has not only been an increase in the total value of goods purchased, but there have also been about one hundred and twenty more buyers than in the corresponding quarter of last year, their orders, however, averaging a trifle less, owing to a previous slight overstocking of the market.

The proposition to increase the import duty on cotton and silk lace and embroidery has been received with great disfavor by the merchants in the district, and they have united in a remonstrance to the Reichstag. Large quantities of these goods, particularly of the cheaper qualities, are used in Sonneberg in the manufacture of dressed dolls. The duty on cotton lace is already 250 marks on 100 kilograms (about $59.50 on 220 pounds). In answering the remonstrance the manufacturers were recommended to make smaller articles of those kinds requiring the lace in question, so that the outlay, even with the increased duty, need not be materially greater. The suggestion was added that the buyers would never notice the difference in size.

MONOPOLY IN THE SLATE-PENCIL TRADE.

As to the slate-pencil industry, American buyers will find that a partial monopoly of the trade has passed into the hands of one firm since the last season. The manufacture of these articles is mainly carried on by families in the neighborhood of Steinach, and competition among themselves, together with the severe terms offered by buyers and the habit of many families accepting various articles of food and clothing in pay for the year's product, had combined to demoralize the trade and to reduce prices to a ruinous figure. A firm in Döschnitz has contracted with about four hundred families in Steinach and vicinity for all the pencils they may make up to 400,000,000 annually at a fixed price. It is stated that the producer is thus assured an advance of from 44 to 50 per cent. on the prices at which he has latterly sold his goods, while the production goes on regularly, with none of the injurious effects of previous competition. For each 1,000 pencils produced 10 pfennige (about 2.3 cents) go to create a fund for the benefit of the work people. One cannot witness the hard lives which these people lead without recognizing the need of some movement to improve their condition.

THE HARVEST.

Thuringia has rejoiced in what it has termed "a five years' summer"; that is, a summer that on an average is only once in five years so pleasant; but in point of fact it is six years since a summer has been so pleasant as the one just closing. The harvest has been excellent. Winter wheat and rye, and also summer rye, have yielded well, and the crops have been gathered in good condition. This is a desideratum, for rye bread is a staple article of food. Barley has rarely been better. The people thank Heaven, and exclaim, "What splendid beer we shall have!" Hops have also done exceptionally well. Oats have averaged well, those on high land being better than those on the low lands.

Potatoes, the main stay of the peasantry, have succeeded much better than the average, particularly the early varieties. Rot is affecting the later ones. Garden fruits and vegetables have done finely, and are plenty. The markets are filled with choice cabbage, beets, carrots, turnips, onions, &c. Apples, pears, and plums are plenty, but these fruits are never of a fine and sweet quality in this climate, which lacks sunshine. The same is true of the vintage; the quantity is much better than the quality. Berries of all sorts, and cherries, which are nowhere better than in this vicinity, have been abundant and cheap.

The hay crop, particularly the aftermath, which is cut in September, and is nearly as much depended upon here as the first cutting in June and July, has been of a fine quality, although the quantity has not been remarkably large.

Bee-keepers have had a posperous summer.

SCARCITY OF LABOR.

Even the newspapers complain of the scarcity of agricultural laborers and call upon the Reichstag for some practical legislation that shall afford relief. They allege that the military system, emigration, and drift to the cities draw off so many males that only females are available for cultivating the soil.

EMIGRATION.

The emigration from Thuringia during the first half of this year, with a population of about 2,000,000, has been 1,753—invariably strong and able-bodied persons. They have gone principally to the United States.

GEORGE F. MOSHER,
Consul.

UNITED STATES CONSULATE,
Sonneberg, October 1, 1884,.

COMMERCE AND INDUSTRIES OF MARSEILLES.

REPORT BY CONSUL MASON.

NAVIGATION.

Notwithstanding an increase of 877,210 tons in the tonnage of the ships which entered and cleared during 1883, the year cannot be said to have been brilliant in its result for the trade of the port of Marseilles.

The increase above noted is chiefly due to the heavier tonnage of the steamers recently engaged in the trade of this port, and in some of the regular lines, particularly in the Algerian service, steamers of over

1,000 tons burden seldom carry more than a few hundred tons of merchandise. It is therefore not surprising to find that the movement of goods does not correspond to the increase shown in the tonnage of transporting ships, and that the proportion of unemployed tonnage, which in 1882 was 56½ per cent., fell in 1883 to a little less than 53 per cent.

The total amount of goods transported reached the figure of 4,574,838 tons, an increase of 183,438 tons only over the preceding year, and of this not more than 78,202 tons belong to the increase in the movement of exportation. The exports by rail fell from 1,528,243 tons to 1,488,348, a decline of nearly 40,000 tons.

It is apparent that in consequence of the low prices of nearly all the commodities, and particularly of wheat, the Marseilles merchants could not market the excess of their importations, and that enormous stocks have been accumulated in the course of the year 1883 on this market.

SAILING SHIPS.

During the year 1883, 5,083 sailing vessels, measuring 753,223 tons, entered this port; 4,871 vessels, of an average tonnage of 723,739 tons, cleared during the same period. As compared with those of the preceding year, these figures show an augmentation of 641 in the number and a diminution of 88,901 tons in the tonnage of sailing vessels entered and cleared at this port.

The inability of sailing vessels to compete with their steam rivals, which is already made apparent in the above figures, is still more strikingly shown in the changes which occurred in the sailing fleet of the port of Marseilles during 1883.

Twenty-four vessels, measuring together not more than 3,008 tons, were added to the list of vessels registered at this port. With two or three exceptions, all these additions consist of small crafts built or purchased for harbor and coast service. On the other hand, 44 vessels, having an aggregate tonnage of 9,463 tons, have been sold, lost, or broken up. At the close of the year 1883 the total number of sailing vessels registered at this port was reduced to 381, with an aggregate tonnage of 34,103 tons, say a loss in one year of 20 vessels and 6,454 tons, or 16 per cent. of the tonnage. In the two years 1882–'83 the difference amounted to 33 per cent., and as most of this decline arises from the diminution in the number of vessels of heaviest tonnage, the day must be near at hand when the sea-going fleet of sailing vessels will be extinct.

STEAM NAVIGATION.

The movement of steam navigation at this port during the year 1883 is condensed in the following table:

Flag.	Entered.		Cleared.	
	Number.	Tonnage.	Number.	Tonnage.
French	3,526	2,487,487	3,529	2,343,345
Foreign	1,283	1,224,717	1,315	1,330,157
Total	4,809	3,672,204	4,844	3,673,502

The difference in favor of the year 1883, as compared with 1882, amounts to 577 ships and 841,462 tons, in which the several foreign

flags appear for a total of 92 ships and 451,862 tons, this increase being chiefly due to the fact that the magnificent steamers of the Peninsular and Oriental Company and of the Netherlands Royal Mail Line have, during and since 1883, called regularly at this port on their way to and from the East Indies. The share of the French flag in the general increase of steam navigation at this port is then 485 vessels and 389,600 tons. Unfortunately, the effects of the crisis, which in 1883 weighed so heavily upon the shipping interest at large, was also severely felt by French owners and steamship companies. Many of the lines opened in the year 1882 were abandoned or their service made less frequent; several of the steam navigation companies, particularly those founded in consequence of the law granting subsidies to the French merchant marine, were only saved from collapse and utter ruin by the help thus afforded to them by the Government.

It is, therefore, not surprising to find that in 1883 the remarkable impetus given to the shipping interest was somewhat checked. In 1882, 38 new steamships, of an aggregate tonnage of 45,559 tons, had been registered at this port; in 1883, the additions consisted of only 26 ships, measuring together 28,268 tons. On the other hand, a good many more steamers (21 and 19,074 tons, as against 10 and 9,920 tons in 1882) were condemned, lost, or sold, so that, in the end, the fleet of Marseilles steamers was only increased during the whole year 1883 to the extent of 5 vessels and 9,174 tons, while in 1882 the increase amounted to 28 ships and 35,639 tons.

On the 31st of December, 1883, there existed, as registered at this port, 274 steamers of an aggregate tonnage of 217,263 tons.

The share taken by the French ship-builders in the new additions to the steam fleet of Marseilles shows a marked progress in that branch of industry in France. In 1882, out of a total of 38 vessels and 45,559 tons, 19 ships, measuring 27,871 tons, had come out of English yards; in 1883, only 9 vessels, with a capacity of 11,519 tons, were built in England; the remainder say 15 steamers and 16,769 tons, being furnished by French builders.

The detailed return of navigation at this port is appended to this report.

A brief statement of the movement of passengers and emigrants during the year 1883 may here be of interest. During the year 109,612 passengers arrived by sea at Marseilles and 63,335 departed; 39,186 arrivals and 22,829 departures of troops are included in these figures, which, compared with those of 1882, show an increase of 7,581 in the arrivals and a decrease of 14,106 in the departures. Twenty-three thousand and thirty-six persons took emigrant tickets at Marseilles in the course of the year 1883; of these, 13,967, including 629 French emigrants, embarked at Marseilles, bound, for a great majority, to South America; 9,069, including 174 French citizens, proceeded by rail to various ports on the Atlantic and in Northern Europe, as follows:

To Havre	865
To Bordeaux	6,599
To Antwerp	1,232
To Boulogne	332
To Rotterdam	41
Total	9,069

TRADE AND INDUSTRY.

With a view to complete and explain the returns of trade at this port during the year 1883, a brief review of the fluctuations and pres-

ent status of the market in respect to the principal staples of trade and of the condition of the leading industries at this port is herewith given.

CEREAL TRADE.

The trade in cereals, which is foremost at Marseilles, has not been conducive to profitable results during the past year.

In spite of a good crop in 1883, coming immediately after a fair one in 1882, the importation of wheat was larger by 92,279 metrical quintals, or over 9,200 tons, than that of 1882, and reached the amount of 6,500,946 quintals, while the importation of other grains amounted to 2,509,633 metrical quintals, as against 1,429,785 in 1882. Marseilles imported in 1883 over 43½ per cent. of the total imports of cereals to France. Unfortunately, the steady decline which the prices of wheat underwent in 1883, and the heavy burden of high railway tariffs, greatly hampered the movement of exportation, which was noticeably inferior to that of 1882, as is shown by the following table:

[In metrical quintals.]

Description.	Exports to foreign countries.		In transitu.	
	1882.	1883.	1882.	1883.
Wheat	994,848	647,079	440,880	613,803
Flour	559,377	532,016	72,889	89,847
Other grain	284,455	283,249	36,352	36,730
Total	1,838,680	1,462,344	550,071	740,380

General total in 1882	2,388,751
General total in 1883	2,202,724

Leaving aside the quantities which passed through this port *in transitu*, it is seen that the Marseilles importers shipped some 37,000 tons less than in 1882 to foreign countries, and at the same time received less demands from the interior of France; the shipments of grain and flour from Marseilles by rail amounting in 1883 to 3,904,980 quintals, while in 1882 they had reached 4,202,862 quintals.

This condition of affairs created a marked uneasiness in the grain market, and the prices underwent a steady decline, which can be estimated on nearly all grades at 20 per cent. in the course of the year.

The American red winter wheat, which had until then found so much favor on this market, proved in 1883 to be of inferior quality, and, notwithstanding the low price at which it was offered, was outrivaled by East India wheat of similar grades. This, owing to the large quantity of wheat imported here from the East Indies (1,497,786 quintals out of a total import of 6,510,203), is a danger to our wheat exporters well worth their careful consideration. It cannot be doubted that if the wheat received at this port from the United States should continue inferior in quality to the East Indian grain, our red winter wheat, which for seven years past held a conspicuous place in this important grain market, will be driven out of it by the Indian product, which was first imported here in 1879, and then only in small quantities.

The importation of wheat at this port from the United States in 1883 amounted to 400,092 quintals. In 1882 it had been 562,177.

The flouring industry suffered in the same way and for the same causes as the wheat trade. We find in the returns of the year 1883 a

decrease of 27,361 quintals in the exports, which amounted to 532,016 quintals as against 559,377 in 1882, and a general decline in the prices, which sank gradually and steadily on all the several grades from 45 and 34 francs per bale of 280 pounds in January, to 43 and 32 in December. In 1882 the quotations were 53 and 42 in January, and 47 and 35 in December.

The exportation of macaroni, vermicelli, and other pastes also declined in 1883; it amounted to 994,468 kilograms, say a difference of 134,986 kilograms as compared with the year 1882.

On the other hand, the "*semoule*" (cracked wheat) manufacturers, who appear to have secured important and reliable business relations with nearly every country of the world, have shipped a total of 16,538,900 kilograms, while in 1882 the exports of that article only amounted to 11,908,048 kilograms.

The countries from which the heaviest demands were received were: Algeria, for 9,306,800 kilograms; Switzerland, 3,968,700 kilograms; Germany, 1,845,000 kilograms; Tunis, 421,500 kilograms; Italy, 377,600 kilograms; and Great Britain, 261,900 kilograms.

This branch of industry enjoys considerable advantage at this port in the large stocks of hard wheat imported here from Russia, Turkey, and the East Indies.

COFFEE TRADE.

Notwithstanding the anomalous rise in the prices created by speculative rings formed first in the central markets of Brazil and then in nearly all the important coffee markets of the world, the coffee trade at this port did not follow this general movement of speculation.

The prices naturally rose under the influence of the quotations in other markets, and Rio coffee, which in February was sold at from 43 to 45 francs per 50 kilograms, reached as early as March the rates of 50 and 53, and in December was as high as 72 francs per 50 kilograms. Santos coffee rose from 50 to 53 in February to 60 to 65 in March and 75 francs per 50 kilograms in December.

The Marseilles importers, who generally kept aloof from speculative enterprises, only imported sufficient quantities to meet the ordinary demands, and did not profit extensively by this extraordinary rise in prices. The importation of coffee, which amounted to 24,691 tons, was, to be sure, larger by 3,900 tons than in 1882, but it did not reach the figure of the imports of 1881, which was 26,470 tons.

One good result of this prudence on the part of the Marseilles traders was that while immense stocks of Brazilian coffee accumulated in nearly every market in the world, the whole stock left at Marseilles at the end of the year was reduced to 6,700 tons of coffee of all grades.

THE SUGAR TRADE.

The system of bounties to the sugar-refining industry inaugurated in Central Europe, and particularly in Germany, while it created in those countries a new and important branch of industry, led to an excess of production which, being far in excess of the wants of consumption, had the unavoidable result of subjecting the prices to a constant depression. The important refineries established at Marseilles suffer comparatively more from this state of things, as they exclusively refine imported cane sugar, and do not find, as their German competitors, a valuable assistance in the bounty system. In January, 1882, refined sugar was quoted on this market at 75.50 francs per hundred kilograms; at the same date

in 1883 the price had fallen to 72 francs, and the depression continued steadily throughout the year down to 65.83 francs, which is the quotation for December, 1883. This being the cause, we find the effect in the returns of imports and exports for the year 1883, as compared with 1882:

	Kilograms.
Imports of raw sugar:	
1882	109,965,884
1883	99,020,435
Decrease	10,945,449
Exports by sea and rail of raw and moist sugar:	
1882	11,460,720
1883	10,505,770
Decrease	954,950
Exports by sea and rail of refined sugar:	
1882	68,886,877
1883	67,662,822
Decrease	1,224,055

THE CACAO TRADE.

The cacao trade appears to be declining at Marseilles if the amount of direct importation is alone considered. The total imports in 1883 amounted to 190,161 kilograms, a falling off of over 50,000 kilograms from the importation of 1882, and less than one-half of the importation of 1880. The only reason for this decline appears to be in the smaller production of the Republic of Ecuador, for Marseilles had to apply to Bordeaux, Havre, and Nantes for a quantity of some 85,000 kilograms to meet the demands received in 1883. Under those circumstances the prices of all the grades, and particularly of the higher, naturally rose. Cacao from the West Indies, as an example, was quoted at 125 francs per 50 kilograms in January, and at 155 francs in July, showing, in six months, a rise of over 20 per cent. which was maintained until the end of the year.

THE PEPPER TRADE.

The pepper trade, which, under a series of favorable circumstances, has been, for a number of years past, remarkably active at this port, continued remarkably prosperous during the year 1883. The earthquake of Java, which occurred in the month of August, at a time when the quotations of this staple were already high (72 to 74 francs per 50 kilograms), had the natural effect to create a marked advance in the prices, which rose to 85 and 87 francs. The Marseilles importers, who, in consequence of the rapid and frequent communications between this port and the East Indies, always hold considerable stocks of pepper, largely profited by this rise of 18 per cent. The importation at this port is steadily increasing; it amounted to 2,328 tons in 1883, and Marseilles will surely monopolize before long this branch of trade in the Mediterranean.

THE OIL-SEED TRADE.

The importation of oil seeds and nuts of all kinds in 1883 amounted to 3,086,310 quintals, gaining a quantity of 358,175 quintals over the year 1882. Most of this enormous importation came from the East Indies, which provided this market with almost all the sesamum received here (1,061,425 quintals), besides a large proportion of the imports of

ground nuts. These nuts, although inferior in quality to the products of the west coast of Africa, are sent from Bombay and the west coast of Hindostan already hulled and sold on this market at the same rates as the nuts from Africa in the shell. As the oil expressed in this city is specially made for manufacturing purposes, the quantity and low prices are more important than the quality, and the produce of the East Indies is slowly driving out of this market that of the west coast of Africa, which, in former years, almost exclusively supplied the oil mills of this city with peanuts, and is now gradually giving up the culture of the lower grades and shipping its crops of higher grades to ports in northern Europe, where better prices are obtained.

Notwithstanding the increase of importation in the year 1883, the stock on hand at the end of the year was not more than 11,650 quintals or 76,350 quintals less than in 1882. These figures are the best illustration of the activity displayed by the numerous seed-oil factories in this city, which exported 16,127,000 kilograms of oils of all grades in the course of the year 1883, showing an increase of 611,000 kilograms over the exports of 1882.

The production of oil cake was also in keeping with the increase of the oil product, and amounted to 1,722,000 kilograms. Most of this quantity was shipped for manure to the interior of France; 466,000 quintals were exported, and a stock of 149,500 quintals remained in the warehouses on the 31st of December. The prices of the different grades of oils varied as follows:

[Per 100 kilograms.]

	Francs.
Lower grades for manufacturing purposes:	
Sesamum oil	61.00 to 75.50
Ground-nut oil	68.00 78.00
Linseed oil	60.00 63.00
Colza oil	84.00 88.00
Lamp oils	62.00 80.00
Higher grades, or eatable oils:	
Sesamum	85.00 87.00
Ground nut	85.00 95.00

As compared with the prices paid in 1882, there is shown an advance of from 10 to 15 per cent. on the lower grades, and a decline of over 20 per cent. on the grades known as "comestible" (eatable).

THE OLIVE-OIL TRADE.

The year 1883 was marked by a good crop of olive oil, both as to quantity and quality. The consequence was a larger importation and higher rates than in 1882.

The following table will give a synoptical view of the trade in both years:

Description.	Quantities received.		Highest and lowest prices per 100 kilograms.	
	1883.	1882.	1883.	1882.
	Kilograms.	*Kilograms.*	*Francs.*	*Francs.*
Lubricating oil	6,000,000	2,000,000	76.00 to 85	76 to 82
Lamp oil	1,000,000	1,500,000	70.00 75	73
Pulp and kernel oil	7,120,000	4,754,000	54.00 68	51 61
Oil for manufacturing purposes	1,488,028	1,500,600	67.00 78	63 71
Salad oil	8,100,000	5,340,000	80.50 185	85 150
Total	23,708,028	15,184,600		

THE SILK TRADE.

The year 1883, contrary to all expectations, proved to be even more injurious to the silk trade than the two or three preceding years. After a constant decline which, in 1882, had brought the quotations to what was thought to be their lowest limit, the fall continued and brought the prices to rates 5 or 10 per cent. lower than they were at the close of 1882. This series of disappointments, combined with the growing tendency of manufacturers to buy their raw material directly on the places of production, has discouraged most of the merchants formerly engaged in the silk-importing trade which may justly be said to be at present in the hands of brokers who only buy and sell on commission.

The quotations were as follows:

Description.	First quarter.	Second quarter.	Third quarter.	Fourth quarter.
	Francs.	*Francs.*	*Francs.*	*Francs.*
Reeled silk, according to grade..per kilogram.	43.00 to 57.00	41.00 to 56.00	41.00 to 55.00	40.00 to 52
Raw silk, according to grade.....do.....	17.00 47.00	16.00 48.00	15.00 48.00	14.00 46
Cocoons.....do.....	12.50 13.50	12.25 13.25	11.50 12.75	10.50 12
Waste.....do.....	4.00 13.00	.....	.....	2.25 11

THE WOOL TRADE.

The wool trade, which did not look promising at the beginning of the year, was somewhat revived after the month of June and until the end of the year by a brisker influx of demands. The stock on hand which, at the close of the year 1882, was 35,151 bales, was reduced on the 31st of December, 1883, to 18,232 bales. The sales effected on this market during the year included 86,036 bales, say 11,361 more than in 1882. But to attain this result the importers had to accept such rates on certain grades that they found it impossible to replace their stock on the same terms from the producing countries. And although the importation amounted to 95,578 bales, as against 93,882 in 1882, it must be borne in mind that the new mail service between this port and Australia was the chief cause of this increase; 17,218 bales of Australian wool were for the first time received at this port in 1883. With the exception of 838 bales, all this quantity only passed through the port of Marseilles in transitu, and should, in order to form a correct idea of the importance of the wool trade at this port, be deducted from the total amount of imports.

THE COTTON TRADE.

Owing to the absence of any weaving factory in this part of France, the cotton trade, like that of silk and wool, is constantly losing ground at this port. The manufacturers learn how to dispense with the services of importing merchants, and are compelled by the force of growing competition to buy their raw material where it can be had cheapest, viz, at the places of production.

This is sufficient to explain the decline of the cotton imports, which amounted to 81,080 bales, a falling off of 16,000 bales from the importation in 1882.

More than one-half of the quantity imported was simply landed at this port and reshipped to the original purchaser in the manufacturing centers. The few transactions effected on this exchange were made at rates generally lower than in 1882.

THE CATTLE TRADE.

In consequence of the lack of pasture-grounds in this district the importation of cattle for the supply of this city, which has always been large, is increasing from year to year. In 1883 912,099 head of cattle of all descriptions were entered at this port; 593,163 came by sea and 318,937 by land. The neat cattle received here are almost exclusively sent from the island of Sardinia and the French provinces of Algeria. Out of a total importation of 545,467 sheep, 534,687 were shipped from Algeria.

The prices paid in 1883 were by from 10 to 15 francs per 100 kilograms (dressed weight) higher than in 1882, and averaged for oxen: French, 162.50 francs; Sardinian, 150 francs; Algerian, 145 francs. For calves, 165 francs. Sheep: from France, 195 francs; from Algeria, 162 francs. Lambs, 163 francs. Hogs, 149.50 francs.

The consumption of meat at Marseilles reached 55.130 kilograms per capita in 1883. In 1882 it had been 53.635 kilograms.

THE HIDE AND SKIN TRADE.

The importation of sheep skins is always small at this port, the wants of the tanning factories being amply provided for by the slaughter-houses. The 6,127 bales imported from South America in 1883 had all, save a trifling quantity of some 800 bales, been bought by manufacturers in the interior, and only passed through this port in transit. The skins from the Marseilles slaughter-house were sold from 2.60 francs to 2.75 francs apiece, shorn, and at 3.60 francs with the wool. The rates for the latter are the same as those quoted in 1882, but the rise in the price of the shorn skins amounts to about 40 per cent. The quantity of skins tanned in Marseilles and Aix in the course of the year was 47,000 dozen, which were sold at prices varying from 23 to 38 francs per dozen, according to quality.

In the first half year the demands from the United States and the interior of France maintained a marked briskness in the importation and the tanning of goat skins. The second half year was somewhat duller and occasioned a slight fall in the prices.

The importation, including a total of 47,920 bales, exceeded that of 1882 by 3,868 bales. The prices of the raw skins varied according to origin and quality from 14 to 55 francs per dozen, and that of the tanned skins from 3 to 10 francs per kilogram, according to the grade.

The importation of hides again declined in 1883, and only amounted to 533,106 pieces, a falling off of 11,589 pieces from the importation of the preceding year, and of 36,769 pieces from that of 1880. It must be said that the tanning factories established in this city and the immediate neighborhood are more particularly devoted to the tanning of sheep and goat skins. The production of leather in the whole department of Bouches-du-Rhône only comprised 10,000 pieces, which was somewhat above the average of several years past.

THE WINE TRADE.

The vintage of France in 1883 produced a total of 36,029,182 hectoliters, by far superior to that of the four preceding years. Still, although the exportation from the port of Marseilles amounted to 18,057,299 liters, or 633,240 liters more than in 1882, the importation exceeded that of 1882 by a far greater quantity (10,846,951 liters), and reached the

enormous total of 60,720,881 liters. This considerable excess of the importation over the exportation can be accounted for, first, by the fact that these ports of France which suffered most from the effects of phylloxera are recovering from them more slowly, and also by the reason that the wines actually imported from Spain and Italy, being richer in alcohol than the native wines, find more favor with the ordinary customer, and not being so apt to turn sour, are also preferred by the dealer.

The better results of the French vintage have noticeably reduced the importation of raisins and affected still more deeply the quotations of this staple, which had been for some years extensively imported for the purpose of making artificial wine. In 1882 the importation amounted to 37,075,065 kilograms, and the quotations were 41 to 47 francs per 100 kilograms. In 1883 the importation fell to 35,093,728 kilograms and the prices to 34 to 37 francs. The duty of 6 francs per 100 kilograms established in the last days of 1881 on this article is likely to complete shortly the destruction of this branch of trade, which had assumed a decided importance at this port.

THE TALLOW AND LARD TRADE.

The tallow and lard trade is worthy of special mention, on account of the prominent share taken in the imports to Marseilles by the United States, from which 6,117,562 kilograms out of a total of 11,118,866 kilograms were received in 1883. It also affords an example of the extensive development which the opening of the regular steam line between this port and Australia has given to some branches of the trade. The first steamer sailed in December, 1882; until that date there had been no importation of tallow from the latter country; in 1883 2,881,250 kilograms of Australian tallow were imported at Marseilles.

The prices advanced from 92.50 to 102 francs per 100 kilograms. This rise was a consequence of the high price of palm oil, which is also used in the preparation of stearine and largely promoted the exportation of stearine candles from this port, as the factories of this city were provided with a great quantity of the raw material previous to the rise. The exportation of candles reached the total of 3,166,377 kilograms, an increase of 566,000 kilograms in one year.

SOAP PRODUCTION.

The soap production of the 95 factories of the department of Bouches-du-Rhône was again larger in 1883, and included a total of 97,227,300 kilograms. The progress effected in two years by this branch of industry is represented by the large figure of 7,624,300 kilograms, although the number of factories has not been increased during the same period. Several of the old ones, by successive enlargements and improvements of their working material, were enabled to increase their normal production. The exportation to foreign countries amounted to 7,459,600 kilograms, showing a slight decline of 412,860 kilograms from the exports of the preceding year.

CLAY MANUFACTURES.

We have also to note some progress in the exportations of bricks, tiles, and other clay manufactures of this port, which shipped 147,000 tons, as against about 140,000 in 1882.

The most notable features of the coal trade have been in 1883, a renewed increase of 37,868 tons in the importation of English coals,

which aggregated 319,318 tons, and an advance of from 1 to 1.50 francs in the prices of French coal, quoted at 27.50 francs per ton.

WOOD AND TIMBER TRADE.

The wood trade suffers considerably at this port from the lack of wharves where the imported wood could be left. The expenses of removing from, and afterward bringing back to, the wharf the wood received at this port is a severe drawback on the development which the trade would undoubtedly take. Still it is constantly progressing, and the year 1883 was marked by a noticeable increase of the importation of staves, lumber, and timber.

SULPHUR REFINERIES.

The sulphur refineries of this port are losing more and more ground in their competition with Belgian and Italian refineries. The tax of 10 centimes collected on every package of merchandise exported from French ports has made the case hopeless for them as to foreign exportation, which was reduced to 4,590 tons in 1883, a loss of 2,117 tons, and it was only by bringing their prices down to rates which left no margin for profit that they could maintain even their French trade.

REPAIRING SHOPS.

The mechanical workshops have been afforded a good business by the repairs and new work required by the numerous steamships that visited this port in 1883, but have lost a large proportion of the heavy work on those for which, owing to the high rates of labor and raw material at this port, they cannot compete with foreign and particularly German, English, and Belgian rivals.

FRANK H. MASON,
Consul.

UNITED STATES CONSULATE,
Marseilles, October 1, 1884.

AFFAIRS IN TURIN.

REPORT BY VICE AND DEPUTY CONSUL DEZEYK.

EXPORT TRADE.

From among the principal exports which, beyond the usual fluctuation in trade, were not influenced this year by any other noteworthy causes, I have to mention the entire falling off of the item of "rice-straw plaits"; owing to the subdivision of the old Turin district the production of said articles being now comprised within the limits of the newly-established consulate at Milan. The other articles of export keep regular pace with the general improvement in the export trade. Thus the export of "raw silk," notwithstanding the temporary crisis of the silk industry alluded to in my report of February 5, 1884, has nevertheless increased from $60,177.40 in 1883 to $108,398.71 during

this year ending September 30, 1884, or $48,221.31 more than during the previous year. The vermouth of Turin, this other principal article of export, shows, on the contrary, a falling off in the year ending September 30, 1884, when the amount of $55,695.36 of the previous is compared with $50,138.98 exported this year.

Notwithstanding the almost total withdrawal, as above stated, of the "rice-straw plaits" from among the articles of export in this consular district, these still show an increase in the total amount of $189,534.44 for this year when compared with $168,775.62 of the previous year ending September 30, 1883, amounting to $20,758.82, or 9 per cent. of the total export.

CONSULAR DUTIES.

The duties at this consulate are of a more varied character than it could be judged by the extent of the consular district or by the importance of its chief place. To furnish the kind and amount of information which is sought at this office by the workless and penniless alone, who fancy the idea of emigrating, or by the relatives of those already in the United States, requires the almost constant attendance of a clerk.

There are, besides, many other inquiries about the drift of Italian emigration, the progress of colonies already settled, the improvements of railway routes and connection of roads, prices of land, the state of agriculture and that of industrial and manufacturing pursuits in the United States; in fact, no day passes without the consul being called upon to give a brief rehearsal of the general statistics of our great West and Territories.

The general Italian exhibition, as well as the preliminary arrangements required of those daily announcing their intention to partake in the Centennial Exposition at New Orleans, have also thrown considerable work on this office.

AMERICAN SAMPLE ROOM.

Ever since the notice of the American sample room at Turin, in the March number of Consular Reports, this office has been in receipt of voluminous correspondence; as the queries about the aim, extent, condition of business, or terms of transactions and probable results of this genuine American enterprise (the foundation of which is already firmly laid) had to be clearly defined and the answers thereto precisely framed.

Turin, as the capital and center of the most industrial province in and among the old Italian dukedoms and kingdoms, can never lose its commercial importance as a largely exporting and importing district in Italy so long as it will be inhabited by the same laborious, economical, and industrious Piedmontese race, which, by the extension of its commercial and manufacturing establishments, no less than by the wisdom of its statesmen and the valor of its armies, has done so much for the unification of the Italian people.

A. J. DEZEYK,
Vice and Deputy Consul.

UNITED STATES CONSULATE,
Turin, October 1, 1884.

FRUIT CULTURE IN SICILY.

REPORT BY CONSUL CARROLL, OF PALERMO.

ORANGE AND LEMON CULTURE.

Planting.—The seed of the bitter orange is planted in March, from which in due time a plant ensues. At the expiration of three years this plant is mature and capable of being ingrafted with the lemon, orange, mandarin, lime, and quince trees, the plant of any one of which can be ingrafted, like the orange, with any of the others. About seven different species each of the orange and lemon are produced in Sicily.

Product.—Three years from the process adverted to the tree bears fruit, which for the first five years thereafter is meager, the yield being only from a half to a dozen oranges and lemons during the first year. During the following year it doubles, and this increase continues in proportion to the end of the first five years. The tree becomes mature during the following five years, its yearly yield increasing up to this period.

About the inception of the eleventh year the tree reaches its acmé, when an average of from five hundred to three thousand oranges and from five hundred to four thousand lemons are yielded annually.

This average depends on the size of the tree, its treatment, and soil.

The orange tree bears once per annum. The lemon yields fruit twice annually. The yield of the orange tree is alternately large and small; the first yield of the lemon tree in each year is larger than that of the second.

Cultivation.—Upon the fruit being taken from the trees the ground is dug. It is manured once every three years or oftener, depending upon the character and necessities of the soil.

Irrigation is resorted to in the absence of rain. Trees are pruned every two years. This process consists of cutting off the dry and weak branches with a view of strengthening and making the tree more prolific. The distance between each tree is about twelve feet.

Age of trees.—There are orange and lemon trees in Sicily two and three hundred years old still yielding good crops, and it is believed that some are even older than this. The period of their bearing fruit is therefore difficult to determine.

Insects.—The lemon and orange tree are frequently attacked by an insect the character of which seems not to have been determined, which causes them to dry and become shriveled.

No prevenative has thus far been discovered against the onslaught of this pest. So soon as it has been discovered that the tree has been attacked the branches thereof are cut completely off, and thus for the time being the insect is destroyed and the trunk of the tree at least preserved.

The Italian Government has offered a reward to any one who may produce a specific for the destruction of the insect in question, and it is hoped some enterprising American will soon find one.

FIG CULTURE.

The cultivation of the fig tree is accomplished by cutting "shoots" from the mature tree and transplanting them. No manure, as a rule, is required in the cultivation of the fig tree.

PEACH CULTURE.

Peach trees are cultivated in Sicily, their fruit being very large and beautiful to look upon, but for some unexplained reason it is taken therefrom before becoming ripe; hence a peach suitable to eat is not obtainable in Sicily. Twelve kinds of this fruit are said to grow on the island.

The process of cultivating the peach is similar to that of the orange and lemon, as to planting, grafting, and irrigation. The ground, however, in which the tree is planted requires to be manured once each year. The olive and almond trees are not irrigated. The ground in which they grow is dug once annually, and an interval of five years between each manuring process obtains.

MULBERRY CULTURE.

The mulberry tree is extensively cultivated and its yield generally prolific. Its treatment is similar to that of the orange and lemon. Its leaves are used for the propagation of the silk-worm.

MISCELLANEOUS FRUIT CULTURE.

Nearly every known fruit tree can be found in Sicily, many being indigenous thereto. In this connection I beg to enumerate a partial list thereof viz: Cherries, peaches, plums, pears, apricots, oranges, lemons, bergamot, almonds, pistachios, prickly-pears, apples, olives, pomegranates, quinces, medlars, carobs, myrtles, mulberries, grapes of about thirty different kinds, &c.

In conclusion, it may be proper to say that in this report it has been my purpose to treat of the cultivation of the orange and lemon trees, and to merely refer to other fruits cultivated in or indigenous to the island, as I have in course of preparation statements touching the cultivation of each fruit specially.

PHILIP CARROLL,
Consul.

UNITED STATES CONSULATE,
Palermo, September 12, 1884.

THE NEW SWISS TARIFF.

REPORT BY CONSUL GIFFORD, OF BASLE.

After some years of deliberation the legislative assembly of the Swiss Confederation has matured a new general tariff, which will go into operation at such time after the 26th day of September, 1884, as the Federal Council may see fit to designate. According to the new Swiss constitution, as is well known, laws become operative only 90 days subsequent to their passage by the legislative authority. Within that time they may be subjected to the so-called "referendum," or popular vote, on the written demand of thirty thousand voters. The legal delay having now nearly expired without any movement having been made to contest the new tariff by means of the "referendum," it may be confidently assumed that it will become the law of the land on the 26th day of September, and that the Federal Council will not delay many months to exercise

the authority conferred upon it to fix the day when it shall go into effect.

The new tariff is mildly protective. Manufacturers of silk and other articles are to be encouraged by a reduction of the duties on raw material and by the increase of those affecting manufactured goods. The increase on material advanced only one stage from the raw state is generally very slight, if any; on coarse wares the increase is moderate, and on fine wares all the way from 50 to 400 and 500 per cent.; but as in all but a very few cases the duties are assessed on a metric quintal (220 pounds), and in no case exceed 100 francs for that weight of merchandise, whatever its value, it will be seen that the tax is still relatively a very moderate one.

Actual results from the new law will be much retarded by the existence of commercial treaties with Germany, Italy, Spain, and France, according to which lower rates on many important articles must be accorded to Germany till June 30, 1886, to Spain till June 30, 1887, and to France and Italy till June 30, 1892.

Among the changes that may have a practical bearing on commerce with the United States the following may be mentioned: Petroleum, flour, and meal, advanced from 1 to 1.25 francs per quintal; manufactures of steel, iron, copper, brass, and tin are taxed from 50 to 200 or 300 per cent. higher than under the present tariff, according to their quality or state of advancement; raw cotton is to pay 12 instead of 6 cents per quintal. Lard remains unchanged at 28 cents a quintal.

In the following table, which gives in detail the duties under the new tariff, as well as those of the existing tariff and those established by treaty, the letters D., I., and S., in the second column, indicate that the figures after which they are placed refer to duties established by commercial treaties with Germany, Italy, and Spain, respectively. The figures in this column which are not thus marked have reference to the commercial treaty with France.

Table showing in detail the rates of duty under the Swiss tariff.

Designation of article.	New general tariff.	Tariff established by commercial treaties.	Existing general tariff.
I.—WASTE MATERIAL AND MANURES.	*Per 220 lbs.*	*Per 220 lbs.*	*Per 220 lbs.*
1. Waste from the manufacture of iron, glass, wax, soap; fragments of glass and pottery; waste of skins, used only for manufacture of glue; distillery rinsings; residuum of grapes; dregs of wine; oil cakes and other residue of pressed fruits and oleaginous seeds; animal blood, liquid or dried; animal tendons; claws, bones; scrapings of coins	Free.	D. Free.	Free.
2. Stable manure; compost; chalk-lime; residue of bone-black; ashes (of bone, coal, wood, peat), leached or unleached; slime, sweepings; rags and other waste for manufacture of manure; sulphuric acid once used; guano; salts for manure, such as phosphate, phosphorite, ammoniacal salts (crude); sulphate of ammonia; chloride of potassium; potash manure; bone dust	Free.	D. Free.	Free.*
3. Not chemically prepared	Free.	D. Free.	Free.
4. Chemically prepared	$0 38. 8	.....	$0 01
5. Bran, oil-cake meal, meal for cattle; carob-beans; residue of malt, and other refuse matters, not elsewhere named, employed as food for cattle	Free.	D. Free. / f29	Free. / 05½ / *29
6. Silicate cotton	03. 8	.....	11
7. Rags of all kinds, except those used for manure; old ropes, and other waste matter used for manufacture of paper; waste paper, &c.; leather cuttings and waste from tanned skins	03. 8	.....	.01½

*Except sulphuric acid, 11 cents duty.
*Carob-beans.

Table showing in detail the rates of duty under the Swiss tariff—Continued.

Designation of article.	New general tariff.	Tariff established by commercial treaties.	Existing general tariff.
II.—CHEMICALS.			
APOTHECARIES AND DRUGGISTS' ARTICLES.	*Per 220 lbs.*	*Per 220 lbs.*	*Per 220 lbs.*
8. Crude matters; animal or vegetable, used in pharmacy, as berries, leaves, flowers, fruits, shells, woods, herbs, barks, seeds, roots, and others not falling under V	$0 58		$0 77 1 35
9. Drugs (juice and extract of plants, alkaloids, chemical and other products), so far as they do not fall under Nos. 15–18	1 93	D. *$1 35	1 35
10. Mineral waters, natural and artificial	58	58	58
11. Pharmaceutical preparations, powders, lozenges, plasters, salves, tinctures, essential oils, and essences, in wholesale packages; surgeons' bandages	7 72		5 80
12. Patent medicines and all specialties for medical use, in retail packages	19 30	†5. 79	5 79
13. Perfumery and cosmetics	13 51	‡5. 59	5 59
14. Sponges	3 86		1 35
CHEMICALS FOR INDUSTRIAL USE.			
15. Crude auxiliary matters, as lemon juice; gum; resin, crude; colophony; pitch; saltpeter, crude; sulphur; tar; argal, crude, &c	38	I. §11 ‖28	58 11 28
16. Prepared auxiliary matters; alum; arsenious acid; sulphate of barytes; boneblack; chloride of barium; crude chloride of calcium; chloride of lime; magnesium and manganese; chrome-alum; iron-mordant; litharge; pyroligneous acid, crude; pyrolignite of lime; phenate and chlorate of lime; extract of chestnut, liquid; Epsom salts; liquid arseniate of soda; bicarbonate of soda; Glauber's salts; hyposulphite, sulphide, and bisulphide of soda; muriatic acid; flowers of sulphur; sulphuret of iron and of soda; sulphuric acid; soda; acetate and sulphate of alumina; sulphate of iron (vitriol), of copper, and of zinc; soluble glass	58	I. 11 29 58 1 35	
17. Caustic potash and soda; starch; dextrine; aniline compositions for manufacture of paints; anthracine; arsenious acid; benzoic acid; benzine; artificial oil of bitter almonds; sugar of lead; bioxide of lead; borax; crude carbolic acid; catechu; chloride of aluminium and of zinc; gallic and tannic acid; glycerine; verdigris; wood naphtha; yellow prussiate of potash; chlorate of potash; red chromate of potash; bisulphite of calcium; solid chestnut extract; oxalic acid; naphthaline; salts of soda; not elsewhere named; salicylic acid, crude; oleic acid; paraffine; potash; spirits of ammonia; refined saltpeter; nitric acid; oxalate of potassium; sulphuric ether; sulphide of arsenic; stearine; aluminous cake; aluminate of soda; oxide of zinc; salts of tin	19	12 29 58 1 35 77	12 19 28 58 77 1 35
18. Not named	38	¶29 77 1 35	29 77 1 35
19. Spirits of wine, alcohol, &c., sophisticated	1 35		1 35
20. Pyrotechnical preparations	9 65		5 79
21. Explosive material, like dynamite, &., percussion caps; fuse	7 72		5 79
22. Common and taper matches	3 86		1 35 3 08
23. Tinder and other kindlings; pitch torches	96		58
24. Wheel grease	38		29
25. Blacking	1 35		1 35
26. Glue and gelatine, crude	19	11	11
27. Glue and gelatine, refined, and fish glue	1 35	1 35	1 35
28. Pressed yeast	3 08		1 15
COLORS AND PAINTS.			
29. Dye-stuffs, mineral or vegetable, not elsewhere named, crude	03½		05½ 11
30. Dye-stuffs, ground, washed, grated, pulverized, cut, &c.	11		11
31. Roucou; prepared sorrel; safflower; cochineal; indigo, &c	77		38 77

† Chemical products not named; licorice juice. ‡ Sirup in form of medicine.
§ Perfumery. ‖ Sulphur; crude resin. ¶ Colophony. *Refined resins.

Table showing in detail the rates of duty under the Swiss tariff—Continued.

Designation of article.	New general tariff.	Tariff established by commercial treaties.	Existing general tariff.
II.—CHEMICALS—Continued.			
COLORS AND PAINTS—continued.	*Per 220 lbs.*	*Per 220 lbs.*	*Per 220 lbs.*
32. Extracts of dye-stuffs, extract of madder, garancine, artificial alizarine, dry or in paste; indigo solution	$0 58	*$0 58	$0 58
33. Other liquid or solid extracts; paints, prepared, dry, in paste; or liquid	1 35	1 35	1 35
34. Lampblack; minium	19	.....	11 29
35. Ceruse and zinc white	38	38	38
36. Chrome yellow and green; mountain blue, Prussian blue; smalt, ultramarine	68	1 35	29 1 35
37. Artificial paints from coal-tar and other bright colors not named	3 86	1 35	1 35
38. Paints, prepared, in boxes, bottles, shells, jars, or bars	5 79	3 08	3 08
39. Varnish and lac of all kinds	1 93	1 35	1 35
III.—GLASS.			
40. Glass for roofs and floors, and glass tiles	1 35	.....	1 35
41. Window glass, common	1 54	1 35	1 35
42. Window glass, colored, figured, ground	4 82	†3 08	3 08
43. Bottle glass and glassware; glass globes for watch crystals; glass bars for industrial purposes	38	.....	‡1 35 43
44. From common brown, black, and green glass; ordinary wine bottles, &c.; colorless flasks for condensed milk	68	I. §29	29 ‖1 35
45. From half-green, not falling under 43	96	.....	38
46. From common colorless glass not polished, or white base only slightly polished, emery-ground stoppers, not falling under 42	1 54	.....	1 35
47. Ground, engraved, colored, unpolished, painted, gilded, and other glass of all kinds not falling under one of the previous classes, even combined with common metal	5 79	3 08	3 08
48. Vitrifications; enamel; glass beads	1 93	I. 77	77
49. Mirror glass, not silvered, of all sizes	3 08	3 08	3 08
MIRROR GLASS, SILVERED, AND MIRRORS.			
50. Under 280 square inches, including frame	3 08	3 08	3 08
51. Over 280 square inches, including frame	7 72	5 79	5 79
IV.—WOOD.			
52. Fire-wood, brush-wood, charcoal, bark, turf, tan, tan-bark, tan-cakes	00. 4	I. ¶ Free.	00. 4
TIMBER FOR BUILDINGS OR CARRIAGES.			
53. Rough or squared with the axe; osiers; hoop-wood; vine-poles	01	.....	00. 4 **01. 6
54. Sawed, and shingles	08	.....	01. 6
55. Tongued and grooved	11	.....	01. 6
CABINET WOOD.			
56. Unmanufactured	02	.....	01. 6
57. Sawed	10	.....	11
58. In strips, for veneering	96	77	77
CORK.			
59. Unmanufactured or in sheets	38	S. 19	19
60. Unmanufactured, soles, stoppers, &c	1 93	S. 96	1 35
61. Rough packing cases and casks for dry objects	10	.....	01. 6
WOODEN ARTICLES.			
62. Rough-hewn, planed, not set up; matchwood, finished, core from common wood; turners', cabinet-makers', and cartwrights' articles	38	.....	11

* Garancine.
† Colored glass.
‡ Glass globes.
§ Ordinary wine bottles.
‖ Flasks for condensed milk.
¶ Fire-wood and charcoal.
** Vine-poles.

Table showing in detail the rates of duty under the Swiss tariff—Continued.

Designation of article.	New general tariff.	Tariff established by commercial treaties.	Existing general tariff.
IV.—Wood—Continued.			
WOODEN ARTICLES—continued.	*Per 220 lbs.*	*Per 220 lbs.*	*Per 220 lbs.*
63. Rough, not painted, not ironed	$1 35	$0 77	$0 77
64. Rough, ironed, cooper's ware, casks, set up and not set up; moldings for frames, wrought or plastered	2 90	1 35	77 1 35
JOINER-WORK, FURNITURE AND PARTS OF FURNITURE, FROM COMMON WOOD.			
65. Painted, varnished; moldings, varnished	3 86	3 08	3 08
66. Polished, carved, upholstered, &c.; frames, plastered or varnished	5 80	3 08 5 80	3 08
67. From cabinet-wood, real or imitation, all kinds	9 65	3 08 5 80	3 08
68. Frames and frame moldings, gilded	5 79	.....	5 79
69. Wooden-ware and turners' articles, painted, varnished, polished, or carved	9 65	3 08 *5 80	3 86
BASKETS AND SIEVES.			
70. Baskets from unpeeled unsplit twigs; brush-brooms	38	.....	16 29
71. Coarse baskets of peeled split twigs, of rushes or wood strips, mordanted or not; coarse sieves	1 54	.....	29 77
72. Fine baskets and sieves	7 72	†3 08	3 08
BRUSHES.			
73. Coarse, with wood or iron, unpolished, unvarnished	386	.....	3 08
74. Fine	965	.....	3 08
V.—Agricultural products.			
FIELD, FOREST, AND GARDEN PRODUCTS.			
75. Fresh seedlings of all kinds, not elsewhere mentioned	Free.	‡Free.	Free. 05½
76. Hay, leaves, reeds, and straw	Free.	Free.	Free.
77. Oleaginous seeds and fruits	05½	.....	05½
78. Flowering bulbs	9 65	.....	5 79
79. Hops	77	.....	77
80. Trees, shrubs, and other living plants, in tubs, pots, or with earth adhering	19	.....	08
81. Trees, shrubs, and other living plants, not in tubs, pots, without dirt adhering	Free.	D. Free.	Free.
VI.—Leather.			
82. Leather of all kinds	1 54	1 54	1 54
83. Leather goods of all kinds, except finished boots and shoes	7 72	5 79	5 79
84. Prepared parts	5 79	5 79	5 79
85. Boots and shoes, coarse	6 75	5 79	5 79
86. Boots and shoes, fine	13 51	5 79	5 79
87. Boots and shoes, half silk, silk or velvet	15 44	.....	5 79
88. Boots and shoes, other cloth	6 75	.....	5 79
89. Parts of boots and shoes	5 79	5 79	1 54 5 79
90. Gloves, leather	19 30	I 5 79	5 79
VII.—Literary, scientific, and artistic articles.			
91. Books, printed; geographical and marine maps	19	19	19
92. Prints, engravings, lithographs, photographs, on paper; music; plates, engraved, of copper, steel, or wood; lithographic stones with drawings, engravings or writing, for printing on paper; pictures and drawings without frame	96	19	19
93. Musical instruments	4 82	3 08	3 08
94. Parts of musical instruments, strings of all kinds	3 08	3 08	3 08
95. Astronomical, chemical, surgical, mathematical, philosophical, optical instruments and apparatus, including optical lenses, spectacles, and opera-glasses	3 08	‖3 08	3 08

* Inlaid articles.
† Fine baskets.
‡ Fresh field, forest and garden products; seedlings.
§ Seedlings of all kinds.
‖ Lenses.

Table showing in detail the rates of duty under the Swiss tariff—Continued.

Designation of article.	New general tariff.	Tariff established by commercial treaties.	Existing general tariff.
VII.—LITERARY, SCIENTIFIC, AND ARTISTIC ARTICLES—Con'd.	*Per 220 lbs.*	*Per 220 lbs.*	*Per 220 lbs.*
96. Sculpture of all kinds	$3 08	$3 08	$3 08 / 08
97. Statues of metal, cast iron, or zinc	96	*35	38
98. Statues of metal; other metals	3 86	†3 08	†3 08
99. Impressions and casts in plaster, sulphur, statuary, pasteboard, and papier-maché, &c	1 35	3 08	3 08
100. Painting on glass	5 79	‡1 35	1 35
(N. B.—Objects of art for public purposes, and natural and technical objects for public collections, are free.)		.....	5 39
VIII.—MECHANICAL OBJECTS.			
WATCHES AND CLOCKS.			
102. Common clocks, except those with gilt frames; cuckoo clocks and the like	3 08	3 08	3 08
103. Common clocks, other than those mentioned under 102; standing clocks, watches of all kinds; toy watches and music-boxes	5 79	§5 79	5 79
104. Watch materials and frame work	3 08	3 08	3 08
MACHINES AND VEHICLES.			
105. Machines of all kinds except locomotives; ready-made parts of machines; engraved cylinders and plates for printing; iron constructions (bridges, beams), and parts of the same, so far as not elsewhere mentioned	77	77	
106. Locomotives	1 93	77	38
107. Component parts of machines, only partly manufactured; cylinders and plates, not engraved	38	‖77	58 / 77
108. Belts of all kinds	1 81	.....	
109. Cards and accessories of cards	3 08	.....	
	Ad valorem per cent.	*Ad valorem per cent.*	*Ad valorem per cent.*
110. Agricultural instruments, as plows, harrows, &c.; carts and sleds for rural use	06	¶10	05
111. Carriages and sleighs for transport of persons	12	10	10
112. Railway carriages of all kinds	08	.....	**8 / 04
(N. B.—Component parts of all kinds of carriages, sleds, and sleighs are rated according to the material of which they are composed and their condition.)			
113. Boats	08	.....	05 / 10
IX.—METALS.			
	Per 220 lbs.	*Per 220 lbs.*	*Per 220 lbs.*
114. Galena and lead ore	Free.	.....	00.4
115. Merchant lead in bars, pigs, sheets, or fragments	06	S. I. 11	11
116. Lead, laminated, in sheets, tubes, balls, wire, shot; hard lead, type-metal, old type	29	S. 29 / ††58	29
117. Lead ware, rough, even combined with wood or iron; new type	1 93	1 35	1 35
118. Lead ware, polished, painted, varnished, even combined with other material	3 86	3 08	.....
IRON.			
(N. B.—Steel and malleable cast iron are in all respects assimilated to wrought iron.)			
119. Iron ore	Free.	.....	04
120. Pig-iron; pig-steel in ingots (blocks cast bars), blooms, partly rolled; scraps and old iron	02	S. ‡‡11	11

* From cast iron.
† From zinc.
‡ Pasteboard casts.
§ Watches and standing clocks.
‖ Pieces of machines.
¶ Carts and sleds.
** Carriages, upholstered or not.
†† Hard lead.
‡‡ Pig-iron.

Table showing in detail the rates of duty under the Swiss tariff—Continued.

Designation of article.	New general tariff.	Tariff established by commercial treaties.	Existing general tariff.
IX.—METALS—Continued.			
IRON—continued.			
121. Iron, forged, rolled, or drawn: rails, bars (round, square, flat, and special shapes), sheet-iron, not hereafter mentioned	*Per 220 lbs.* $0 11	*Per 220 lbs.*	*Per 220 lbs.* $0 11
122. Rails weighing less than 32 pounds for each meter (3 feet 3 inches) in length; special shapes with a maximum transverse section of less than 6 centimeters (2⅓ inches); round iron less than 2⅜ inches thick, wire rope not mentioned under 123; square and flat iron of less than 5½ square inches transverse section	33		11 33
123. Wire rope in coils, simple, over eighteen one-hundredths and less than forty-three one-hundredths of an inch thick	25		33
124. Sheet-iron less than twelve one-hundredths inch thick, simple, leaded, tinned, zinced, coppered, or nickled	58		58
125. Wire, simple, leaded, zinced, coppered, or nickled	77		58
CAST-IRON WARE.			
126. Unfinished and coarse	49	$0 49	33
127. Other manufactures of wrought iron, malleable cast iron, steel, sheet-iron, and wire	1 15	96	33
128. Pipes, drawn, unfinished	11	58	11
129. Quite unfinished, coarse, partly finished tools; plowshares, carriage axles, anvils, pipes, riveted, soldered, galvanized, of all kinds; toothed and traction bars; switches and crossings, &c	58	58	11 58
130. Common, rough, turned, filed, smoothed, with ground color, tarred, zinced, also in connection with wood	1 35	1 35	58 1 35
131. Fine, polished, painted, varnished, nickeled, enameled, even combined with other material	5 79	3 86	3 08
(B.—Articles made of cast and wrought iron are subject to duty as cast and wrought-iron ware, according as the weight of the one or the other predominates.)			
132. Cutlery	7 72		3 08
133. Arms of all kinds and ready made parts of same	9 65		5 79
134. Parts of same, partly manufactured	1 93		5 79
COPPER.			
135. Copper ore			00. 4
136. Copper, pure or alloyed (brass), in bars, lumps, plates, or fragments, old bell and gun metal	19	S. 28	28
137. Copper, pure or alloyed, hammered, laminated, drawn, in bars, sheets, pipes, wire	58	S. 58	58
138. Copper or brass ware, partly manufactured: Tissues of brass or copper wire; bronze ware, partly manufactured; rivets, screws, pegs, tacks, wire covered with rubber, metal wire, or other substance	1 93	*1 35 3 08	1 35
139. Coppersmiths' wares, of brass or copper; bronze	7 72	3 08	3 08
140. Copper, gilt or silvered: Hammered, drawn, rolled, spun on thread or silk	7 72	3 08	3 08
NICKEL.			
141. Cube or spongy nickel; nickel silver in crude fragments	58	58	58
142. Nickel, pure or with alloy, rolled, drawn, in plates, bars, sheets, or wire	1 93	1 35	1 35
143. Nickel or nickel-alloy ware	7 72	3 08	3 08
ZINC.			
144. Zinc, in bars, blocks, plates, or fragments	8	S. 39	39
145. Zinc, rolled, drawn, sheet, or wire	39	39	39
146. Zinc ware, rough	2 90	1 35	1 35
147. Zinc ware, polished, painted, varnished	7 72	3 08	3 08

* Copper and wire tissues.

Table showing in detail the rates of duty under the Swiss tariff—Continued.

Designation of article.	New general tariff.	Tariff established by commercial treaties.	Existing general tariff.
IX.—METALS—Continued.			
TIN.			
	Per 220 lbs.	*Per 220 lbs.*	*Per 220 lbs.*
148. Tin in bars, blocks, plates, or fragments	$0 38	S. $0 38	$0 38
149. Tin, pure or alloy (Britannia), hammered, rolled, sheet, foil, wire	96	58	58
150. Tin ware, pure or with alloy, rough	1 93	1 35	1 35
151. Tin ware, polished, painted, varnished	7 72	3 08	3 08
PRECIOUS METALS.			
152. Gold, silver, platina, not coined or finished	Free.	Free. D.	Free.
153. Gold, silver, platina, rolled, in plates or bands	3 86		1 35
154. Gold and silver leaf, wire, thread; metal wire wound with gold or silver	9 65	*3 08	3 08
155. Gold or silver plated ware, fire or electro-chemical process	11 58	5 79	5 79
156. Gold and silversmith's ware, jewelry, real or false	19 30	5 79	5 79
X.—MINERALS.			
157. Rubble stone, building stone, scabbled or rough hewn; paving stone, and material, gravel, sand, plaster, and lime, crude, unburned; clay, refractory earth; kaolin and other minerals, and earths not elsewhere mentioned, even burned or ground	Free.	Free. †D 0 or 4	Free. 00.4
158. Slate for roofs	6	2	2
159. Slate flags or plates	58	58	58
160. Slates and slate pencils	3 08	3 08	58
161. Millstones	1 19	19	01.9
162. Grindstones or whetstones	06	06	06
163. Lithograph stones without drawings, lime, plaster, cement	10	06	06
164. White lime and plaster, burned or not	02		01.6
165. Hydraulic lime	04		06
166. Roman cement	10		06
167. Portland cement	14		06
168. Manufactures of cement, as building-stone, plates, tiles, pipes, &c	03		01.6
169. Colored, figured, smoothed	38		38
170. Pumice-stone, silex, cryolite, magnesite, Bristol brick, washed sand, emery, steatite, tripoli, Vienna lime	11		11 38
171. Chalk, common, in wood, paper, or reed	3 08		3 08
172. Alabaster and marble, in rough blocks	10	06	06
173. Alabaster and marble, in plates or sawed	38	‡19	§06 a 28
174. Alabaster and marble, smoothed or polished	96	‡58	58
STONE-CUTTERS' AND STONE-TURNERS' PRODUCTS.			
175. From common stone, not smoothed or polished	10	58	01.6
176. From common stone, smoothed or polished	58	58	06
177. From marble	96		58
178. Precious stones of all kinds, unset	5 79		77
179. Amber and meerschaum, rough	1 93		28 1 35
180. Coal, lignite, coke	00.4		00.4
181. Asphaltum and bitumen, lignite, tar-oil	06		06
182. Asphalt roofing and pipes	11		11
183. Petroleum and other mineral or tar oils, refined or crude, not elsewhere named	24		19
XI.—ARTICLES OF CONSUMPTION—TOBACCO.			
187. Lard	28		28
188. Butter, fresh, salted, melted	58		28
189. Cocoa and cocoa shells	28		56
190. Cocoa in powder, chocolate, chocolate paste	3 86	S 3 08	3 08
191. Eggs	19	I 10	01.6
192. Ice	Free.		Free.
193. Vinegar and acetic acid, in casks, bottles, or jugs	87	87	87
194. Choice preserves and all other choice articles not specially mentioned, preserved in glasses, bottles, or boxes	9 65		5 79

*Gold and silver leaf. ‡Marble.
†Building stone. §Alabaster and marble sawed.

Table showing in detail the rates of duty under the Swiss tariff—Continued.

Designation of article.	New general tariff.	Tariff established by commercial treaties.	Existing general tariff.
XI.—ARTICLES OF CONSUMPTION—Continued.	*Per 220 lbs.*	*Per 220 lbs.*	*Per 220 lbs.*
195. Fish, fresh, dried, salted, pickled, smoked, or otherwise prepared	$0 48		$0 06
196. Fish, in bales, casks, or like vessels of less than 11 pounds' weight, as well as in hermetically-sealed boxes or glasses	9 65	S $3 08	3 08
197. Fish, in bales, casks, or other like vessels of over 11 pounds' weight	38	S 77	77
MEAT, GAME, POULTRY.			
198. Butchers' meat, fresh	28		19
199. Butchers' meat, salt, smoked, cooked, in boxes, dried bacon	77		77
200. Poultry, living	58	I 77	08
201. Poultry, dead; game; sausages	1 54		1 35
202. Meat extract	5 79		5 79
FRUIT.			
203. Berries, fresh	Free.	D, Free.	Free.
204. Table grapes	48	S 48	48
205. Chestnuts, fresh or dried	06	11	11
206. Fruit, dried, not stoned; apples, pears, cherries, plums, &c.; trodden berries and fruits for distillation	28	S 28	38
207. Juice of fruits and berries; preserved fruits; without sugar or alcohol, so far as not embraced under No. 194.	3 86		5 79
SOUTHERN FRUITS.			
208. Raisins and Corinth raisins	2 31	S 58	{ 1 35
209. Others	1 93	S I 58	{
210. Vegetables, fresh; potatoes	Free.	D, Free.	Free.
211. Vegetables, fresh: others	19	D, I, Free.	Free.
212. Vegetables, salted or dried, open (wholesale); preserved in vinegar, or otherwise	77	77	77
213. Vegetables, in vessels over 11 pounds; peas and beans preserved in water, without regard to weight of vessel	1 35	{ 1 35 *3 08	1 35 *3 08
214. Vegetables in vessels weighing 11 pounds or less, not embraced under 213	3 86	3 08	3 08
CEREALS, INDIAN CORN, RICE, AND LEGUMES.			
215. Not hulled nor in groats	06		06
216. In groats, hulled or split, semoule; flour and meal from cereals, rice, or legumes	24	J 19	{ 06 19
217. Bread	24		19
218. Macaroni, vermicelli, choice bakers' articles without sugar	1 93	J †2 03	1 35
219. Spices of all kind	2 88		1 35
220. Honey	1 54		58
221. Coffee, roasted	87		58
222. Coffee, raw	68		58
223. Coffee, substitutes for; chicory, fig coffee	77		58
224. Chicory roots, dried; figs, roasted	11	J ‡11	11
225. Cheese	1 15	J 77	77
226. Malt	22		11
227. Milk, fresh	Free.		00.4
228. Milk, condensed	1 35		1 35
229. Sago and tapioca	1 35		1 35
230. Salt, rock	02		06
231. Salt, table, sea; brine	06		06
232. Salt, table, in packages	1 93		1 35
233. Shell-fish; oysters, lobsters, &c	5 79		1 35
234. Soups, condensed, julienne, sago, tapioca, meal, &c., in packages	3 86		1 35
235. Mustard; raw or cracked	28	28	28
236. Mustard; in powder, paste or liquid	3 86	§3 08	3 08
237. Tobacco, leaves, stems and ribs, waste	4 85		4 82
238. Tobacco, coils and sticks for making snuff	6 75		5 79
239. Tobacco, smoking, chewing tobacco, snuff	9 60		9 60
240. Tobacco: cigars and cigarettes	19 30		19 30

*Peas and beans. †Macaroni, &c. ‡Figs, roasted. §Mustard, ground.

Table showing in detail the rates of duty under the Swiss tariff—Continued.

Designation of article.	New general tariff.	Tariff established by commercial treaties.	Existing general tariff.
XI.—ARTICLES OF CONSUMPTION—Continued.			
CEREALS, INDIAN CORN, RICE, AND LEGUMES—continued.	*Per 220 lbs.*	*Per 220 lbs.*	*Per 220 lbs.*
241. Tea	$7 72		$5 79
242. Sugar: molasses, sirup, raw, brown or black	38	$0 58 / 1 35*	58
243. Sugar: sirup, refined	1 35	1 35	1 35
244. Sugar: raw and crystallized; crushed; glucose	1 45		1 35
245. Sugar: refined, loaf, in sheets, lumps or fragments	1 54		1 35
246. Sugar: cut or finely powdered	1 93		1 35
247. Beer and malt extract in casks	68		58
248. Beer and malt extract in bottles or jugs	1 93		1 35
249. Beer: beer leaven	58		58
250. Cider	28		28
251. Grapes, fresh, for wine	48		48
252. Wine: in casks	96	S.I. 68	68
253. Wine: in bottles or jugs	3 86	S.I. 68	68
Spirits of wine, alcohol, brandy and other spirituous beverages, as cognac, rum, arrac, &c., not coming under the head of liqueurs, *i. e.*, not aromatized or sweetened:			
254. In casks, for each degree of pure alcohol, according to Tralles alcoholometer	04	04	04
255. In bottles or jugs, without regard to strength	5 80	3 08	3 08
256. Liqueurs, in casks, bottles or jugs	5 80	3 08	3 08
XII.—OILS AND FATS.			
257. Olive oil in casks	19	S. L 19	19
258. Table oil in bottles or tin cans	3 86	S. 2 31	3 08
259. Other fat oils, not medicinal, all kinds in casks; vegetable wax	19	I. 19	19 / 28
260. Tallow, fish oil; residue of animal fat	10	S. 12†	12 / 19
261. Spermaceti	28		28
262. Tallow candles	96	77	77
263. Candles of all other kinds	3 08	3 08	3 08
264. Soap, common	48	S. I. 28	28
265. Soap, perfumed	5 79	I. 28	28
XIII.—PAPER.			
266. Fibers for paper-manufacture, damp	12		12
267. Fibers for paper-manufacture, dry	28		28
268. Wrapping and blotting paper not suitable for printing; glass, metallic and emery paper; waxed and tarred paper.	68	58 / 3 08‡	58 / ‡3 08
269. Printing and writing paper, sized or not sized, drawing, letter and tissue paper of uniform color	1 93	1 35	1 35
270. Paper, variegated; gold and silver paper; enameled paper; glazed paper, with figures in relief or printed, not embraced under No. 92; wall paper	3 96	3 08	3 08
271. Labels, forms, envelopes, handbills, posters, &c.; paper-linen; railway tickets, printed	5 79	3 08§	3 08 / ‖5 79
272. Pasteboard, common gray	68	58	58
273. Pasteboard, white	1 15	77	77
274. Pasteboard	1 93		0 00
275. Articles in pasteboard	7 70	3 08	3 08
276. Playing-cards	15 44		5 79
XIV.—TEXTILE MATTERS.			
(N. B.—Mixed yarns, tissues, ribbons, trimmings, and hosiery are dutiable as articles wholly of the material which constitutes their chief weight.)			
COTTON.			
277. Cotton, raw, and cotton waste	06	12	12
278. Cotton, wool	77	77	77
279. Yarn, single, unbleached	1 16		77

* Molasses. † Fish oil. ‡ Glass; metallic, and emery paper.
§ Lithographed paper. ‖ Paper-linen.

Table showing in detail the rates of duty under the Swiss tariff—Continued.

Designation of article.	New general tariff.	Tariff established by commercial treaties.	Existing general tariff.
XIV.—TEXTILE MATTERS—Continued.			
COTTON—continued.	*Per* 220 *lbs.*	*Per* 220 *lbs.*	*Per* 220 *lbs.*
280. Yarn, twisted, bleached	$1 54		$0 77 *1 35
281. Yarn, dyed	2 12		1 35
282. Yarn, on spools, balls, skeins, for retail	3 86		1 35
Tissues: Plain, twilled, écru:			
283. Plain tulle	77		77
284. Of 38 threads or less to 5 millimeters square, except tissues of yarn averaging No. 70 English or finer number	1 54		77
285. Of over 38 threads to 5 millimeters square, and tissues of 38 threads and less from yarn, averaging No. 70 English or finer	2 70		77
(N. B.—Warp and woof counted together. If the thread is double or twisted, each thread counted separately.)			
286. Plain twilled: Bleached, dyed, and printed	4 82		3 08
287. Cotton velvet: Figured, piqué, dimity, damask, tulle broché	5 02	$2 08†	‡77 3 08
288. Blankets, common without needle work or trimming	2 32	77	77
289. Blankets with needlework or trimming	5 80		3 08
290. Ribbons and trimmings	5 80	3 08	3 08
291. Hosiery	4 82		3 08
292. Embroidery and lace	11 58		5 80
FLAX, HEMP, AND JUTE.			
293. Flax, hemp, jute, and other textiles and their refuse; crude, retted, stripped, or heckeled	06	J 06	06
294. Yarn of the above textiles up to No. 10, inclueive, écru	19		06
295. Yarn of textiles over No. 10, inclusive, écru	1 15		77
296. Yarn, bleached, twisted	1 93		77 1 35
297. Yarn, dyed	2 98		1 35
298. Yarn on spools, in balls or skeins	4 63		1 35
299. Tissues for wrapping, less than 9 threads to 5 millimeters square; plain, twilled, figured	38	28	28
300. Tissues, écru or half bleached, of 9 to 18 threads to the 5 millimeters square, and all bleached, dyed, or printed tissues except tulle	2 31	77	77
301. Tissues, écru or half bleached, of over 18 threads to the 5 millimeters square, and all bleached, dyed, or printed tissues except tulle	5 80	3 08	3 08
302. Tulle, plain or broché; écru, bleached, dyed or printed	7 70	5 80	5 80
303. Ribbons and trimmings	5 80	3 08	3 08
304. Hosiery	5 80	3 08	3 08
305. Embroidery and lace	11 58	5 80	5 80
306. Ropes and cables, strings and twine, écru, not twisted	96	58 3 08	28 58
307. Other cordage, as strings and twine, twisted, bleached, dyed; nets	3 86	3 08	3 08
308. Straps	2 89		1 35
309. Tubes, bags without seams	2 89		1 35 3 08
310. Coarse mats and carpets from jute, manila, coco, and other similar material	1 93	1 35	1 35
311. Oil-cloth, common, and oiled linen for packing	77	58	58
312. Oil-cloth for furniture, curtains, &c.; cork carpets (linoleum)	3 86	3 08	3 08
SILK.			
313. Cocoons, waste, cardings, and defective cocoons	06		12
314. Floret silk, combed	19		77
315. Not thrown (grège)	28		77
316. All other kinds of raw silk	1 35	I 77 I	77
317. Dyed	3 08		3 08
318. On spools, in balls, skeins, for retail	7 70		3 08
319. Tissues of silk or floret silk; écru, white, dyed, printed	3 08	3 08	3 08
320. Ribbons and trimmings	9 65	3 08	3 08
321. Hosiery	9 65	3 08	3 08
322. Embroidery and lace	11 58	5 79	5 79
323. Tissues, trimmings, lace, &c., with gold and silver	11 58	5 79	5 79

* Imitation of Vigogne thread. † Piqué, dimity, damask. ‡ Unbleached cotton velvet.

Table showing in detail the rates of duty under the Swiss tariff—Continued.

Designation of article.	New general tariff.	Tariff established by commercial treaties.	Existing general tariff.
XIV.—TEXTILE MATTERS—Continued.			
WOOL, PURE OR MIXED.			
Wool:	*Per 220 lbs.*	*Per 220 lbs.*	*Per 220 lbs.*
324. Unmanufactured, waste, clippings, shoddy	$0 06	$0 12	$0 12
325. Washed, scoured, dyed, combed	12	12	12
Yarn:			
326. Ecru, single or double, wadding	1 35	3 86	3 86
327. Bleached, triple or many-fold	1 54	1 54	1 54
328. Dyed	2 31	1 73	1 73
329. On spools, in balls or skeins	5 79	.....	1 73
Tissues:			
330. List	77	77	77
331. Ecru	4 82	2 31	2 31
332. Bleached, dyed or printed	7 72	4 82	4 82
333. Lastings, ecrus or dyed for shoes	3 08	*2 31 4 82	2 31 4 82
334. Blankets of all kinds, without needlework	3 86	3 08	3 08
335. Blankets of all kinds, with needlework	7 72	5 79	5 79
336. Ribbons	7 72	5 79	5 79
337. Trimmings	7 72	4 82	4 82
338. Hosiery	7 72	4 82	4 82
339. Embroidery and lace	11 58	5 79	5 79
340. Shawls and scarfs	11 58	5 79	5 79
341. Carpets, coarse, without fringe or needle-work	3 86	2 31	2 31
342. Carpets, other	9 72	5 79	5 79
343. Shoes made of list	3 08	3 08	3 08
344. Felt, in the piece	3 86	3 08	3 08
345. Felt, crude, partly completed hat felt, crude or dyed	2 89	1 35	1 35
346. Felt, dyed or printed	4 82	3 08	3 08
347. Felt hats, not trimmed	5 79	.....	5 79
RUBBER AND GUTTA-PERCHA.			
348. Rubber and gutta percha, pure or mixed, crude, cut, drawn; in balls, plates, sheets, straps, threads	77	1 35	1 35
349. Rubber and gutta-percha in pipes and tubes	1 35	1 35	1 35
350. Rubber and gutta-percha applied to tissues, &c.; shoes without needlework, and other manufactures of the same material, not named	7 72	3 08	3 08
351. Elastic tissues of all kinds, of rubber in connection with cotton, wool, silk, &c	5 79	.....	3 08
352. Boots and shoes, with needlework	9 65	.....	3 08
STRAW, RUSHES, BARK, ETC.			
Straw, assorted; rattan, bark, rushes, reeds, rice-straw and roots, esparto, palm leaves, seaweed, vegetable hair, &c.:			
353. Crude	06	.....	.....
354. Dyed, split, spun, twisted, braided, teasels, rice-straw brooms	28	.....	.....
355. Coarse manufactures, mats, carpets, shoes, &c	67	.....	28 1 35
356. Braids of matters mentioned under 353 and 354, not falling under 355 and 357	1 93	.....	77
357. Fine manufactures; hats, not trimmed; also with horsehair or yarn, so far as not embraced under 361	9 72	.....	3 08
READY-MADE CLOTHING AND FANCY GOODS.			
Clothing, underclothing, and other ready-made articles, with needle-work:			
358. Of cotton, linen, or rubber	7 72	†5 79	5 79
359. Of wool or half wool	15 44	7 72	7 72
360. Of silk, half silk, or fur	19 30	.....	
361. Fancy goods; women's hats, trimmed; artificial flowers, ornamental feathers	19 30	5 79	5 79
362. Men's hats, trimmed	19 30	.....	5 79
363. Beds (mattresses, pillows), filled	7 72	.....	5 79
364. Umbrellas and sunshades, woolen, linen	7 72	.....	5 79
365. Umbrellas and sunshades, cotton	3 86	3 08	3 08
366. Umbrellas and sunshades, silk	11 58	5 79	5 79
367. Umbrellas and sunshades, handles and frames	1 15	.....	77
368. Clothing and linen, worn	28	28	28
369. Wagon-awnings, made up	2 89	.....	(‡)

* Ecrus. † Of linen or rubber. ‡ According to material.

Table showing in detail the rates of duty under the Swiss tariff—Continued.

Designation of article.	New general tariff.	Tariff established by commercial treaties.	Existing general tariff.
XV.—ANIMALS AND ANIMAL PRODUCTS.	*Each.*	*Each.*	*Each.*
370. Horses and mules	$0 58		$0 58
371. Circus horses, even when re-exported	58		58
372. Colts and asses	19		10
373. Neat cattle, weighing over 150 kilograms	96		10
374. Neat cattle, weighing from 60 to 150 kilograms	38		
375. Calves, weighing less than 60 kilograms	19		05 / 10
376. Swine, weighing 25 kilograms or over	28		16
377. Swine, weighing less than 25 kilograms	19		02
378. Sheep, goats	10		02
379. Beehives, occupied	04		02
380. Animals, not enumerated	Free		1 15
ANIMAL PRODUCTS.	*Per 220 lbs.*	*Per 220 lbs.*	*Per 220 lbs.*
381. Hides and skins, raw, green, salted, dried	$0 12	S $0 12	$0 12
382. Hides and skins, tanned, curried, with hair for saddler's or furrier's use	1 74		1 35
383. Animal hair, not elsewhere named	12		12
384. Bristles, assorted and in bundles	28		12
385. Horse and buffalo hair, raw	19		58
386. Horse and buffalo hair, cleaned, prepared	1 35		1 35
387. Human hair, wigs, and hair articles	9 65		5 79
388. Felt, foot-rugs, horse-blankets of animal hair, mentioned under 383, and of other inferior material	1 93		1 35
389. Tissues, and other manufactures of horsehair, pure or mixed	17 24	3 08	3 08
390. Feathers for beds	1 93	S 1 35	1 35
391. Down	9 65	1 35	1 35
392. Pens and quills	1 93		3 08
393. Bladders, guts, rennet	12		12
394. Wax	28		28
395. Manufactures of wax of all kinds	9 65	J 3 08	3 08
396. Horns: crude, and other crude animal material not named	06		12
397. Horn: prepared, or in sheets or plates of every size; bone plates	19	12	12
398. Ivory: walrus and other animal teeth	1 93		77
399. Whalebone, unmanufactured or stripped	77		77
400. Whalebone, polished	3 08		3 08
401. Tortoise-shell and mother-of-pearl	1 93		77
402. Pearls and coral, not set	9 65	J 5 79	77
XVI.—STONE AND CLAY (COARSE).			
403. Tiles, bricks, pipes, plates, flags	04	02	02
404. Fire-proof bricks, flagstones, and sidewalks	10		38
405. Tiles and bricks: smoked, slated, glazed; balusters and architectural ornaments	28	J 38	38 / 3 08
406. Pipes, plates, squares: oiled, glazed, not painted nor with imprinted designs, not polished, smoothed, or channeled; without ornaments in relief	38	J 38	38
407. Pottery, common, with gray or red fracture, glazed or not; common stoneware; crucibles; earthen pipes	48	J 38	28 / 38 / 77
408. Plates, paving-tiles, not falling under the head of faience or fine stoneware. stove tiles, painted, with impressions, polished, with ornaments in relief. Architectural ornaments, glazed or in stone	1 93	I 3 08	3 08
409. Pottery, with a white or yellowish fracture; faience; fine stoneware, porcelain of all kinds, parian, biscuit, terra-cotta, and other pottery not before mentioned	4 82	I 3 08	3 08
XVII.—MISCELLANEOUS.			
410. Manufactures of agate, alabaster, rock crystal, amber, jet, meerschaum, mother-of-pearl, tortoise-shell, and other similar matters	19 30	5 79 / 3 08	3 08 / 5 79
411. Haberdashery, not above classified	4 82	3 08	3 08
412. Office and painter's articles, rubber for office use; writing and drawing instruments not elsewhere named	4 82	3 08	3 08
413. Sealing-wax	3 08		3 08
414. Toys	7 72	3 08	3 08
415. Articles intended for traveling exhibitions, panoramas, &c	7 72		7 72

GEORGE GIFFORD, *Consul.*

UNITED STATES CONSULATE,
Basle, September 6, 1884.

TRADE-MARKS IN SWEDEN AND NORWAY.

REPORT BY CONSUL ELFWING, OF COPENHAGEN.

I have the honor of forwarding herewith a translation of an act concerning the protection of trade-marks, dated July 8, 1884. This act will take effect on January 1, 1885.

NERE A. ELFWING,
Consul.

UNITED STATES CONSULATE,
Stockholm, August 5, 1884.

PROTECTION OF TRADE-MARKS.

[Translated from the Swedish, by Consul Elfwing.]

AN ACT CONCERNING THE PROTECTION OF TRADE-MARKS; GIVEN AT THE ROYAL PALACE OF STOCKHOLM, JULY 5, 1884.

We, Oscar, by the grace of God, King of Sweden and Norway, the Goths and Wendes, make known, that we, with the Diet, have been pleased to decree the following:

SECTION 1. Any person who in this realm is carrying on the trade of manufacturer or artisan, of agriculturist, miner, merchant, or any other trade, may, at the same time he is entitled to appropriate as a trade-mark the name of himself or his firm or the name any real estate belonging to him, obtain, in making a registration according to the provisions of this act, an exclusive right to use any special trade-mark, that his products in the general market shall be distinguished from the products of other persons. Such a right shall comprise all kinds of products if, at the registration, it be not confined to any particular wares. The trade-mark is to be affixed on the product itself or on the vessels or covers (packing) wherein it is contained.

SEC. 2. The register of the trade-marks is kept at Stockholm for the whole realm by an authority constituted for this purpose.

SEC. 3. Any person desirous to have a trade-mark registered shall file or by a post-paid letter send in to the registering authority an application in writing containing a distinct description of the mark and a complete statement of the name or firm, together with the trade and postal address of the applicant; and likewise, when the right to the trade-mark is to comprise only certain kinds of wares, a statement of these particular wares.

The application to be accompanied by—

(1) A fac-simile of the mark on solid paper in three copies of not more than ten centimeters in height by fifteen in width.

(2) Two suitable stamps (clichés) required for the printing of the mark and of the same size as the fac-similies.

(3) Forty crowns to pay the fee of registration and the cost of its publication.

The registering authority is bound immediately to inform the applicant when the application is received, or if a complete post address has been furnished, to dispatch by mail a certificate in writing to that effect, also to state at what date, together with the hour of the day, it was received; on the certificate one of the copies of the trade-mark deposed shall be affixed.

SEC. 4. Trade-mark shall not be registered:

(1) Should it consist only of numeral characters, letters, or words, which are not sufficiently distinguished by such a particular form that the mark will be determined as a figurative mark.

(2) Should it wrongfully state either the name of another person or firm than that of the applicant or the name of real estate belonging to another person.

(3) Should it contain public emblazonry or stamps.

(4) Should it contain representations of an offensive character.

(5) Should it be quite similar to any trade-mark previously registered for another person or for registering properly announced, or should it appear to be of such a similarity to such a mark, that, notwithstanding the discrepancies in certain respects,

the marks on the whole will be easily mistaken one for the other; registration shall not, however, be refused in case the similarity depends upon such designations as provided in section 7; or if both the marks refer to different wares.

SEC. 5. If the registration be refused, this decision, together with the motives for refusal, shall be communicated to the applicant in writing pursuant to section 3, for the events there provided. If the applicant is dissatisfied with the decision, he has, by peril of foreclosure, to appeal to the King before 12 o'clock on the sixtieth day after the date of decision.

SEC. 6. If there be no objection to the registering, the mark shall be entered into the register, and a notification of the registering, without delay, be published in the newspapers, and be inserted in a special paper for registration edited by the authorities.

SEC. 7. If a trade-mark registered for any person should contain numeral characters, letters, or words which are not sufficiently distinguished by such a peculiar form that the mark will be determined as a figurative mark, or should it consist entirely or partly of such sign or mark which is generally used in certain trades, the registering will constitute no objection for any other person to make use of the same designations as a trade-mark or as a part of a trade-mark.

SEC. 8. The right of a registered trade-mark may not be transferred unless with the transfer of the trade for which it is used.

Has a trade been transferred to another person, the right of the registered trade-mark, used for the trade, devolves from the transferrer to the new owner, unless it be agreed that the right of using the trade-mark may be retained by the former, or that both employ the mark for different kinds of wares.

SEC. 9. The protection of a registered trade-mark will cease when an application for renewal has not been filed, the first time, within ten years from the date of registration and subsequently within ten years after the date of the last renewal.

Any person desirous to have the registration renewed, shall file or send in, in the manner provided in section 3, an application in writing to that effect, and likewise to annex one copy of such a fac-simile as prescribed there, together with ten crowns as registering fee. If the mark has been registered in the name of another person than he who requests the renewal, the applicant shall, in filing the application for renewal, likewise have to prove his right to the mark.

The renewal shall instantly be entered in the register and a certificate of the renewal be sent to the applicant in the way provided under section 3, relative to the certificates therein described. In case the registering authority find that the directions here provided are not complied with, the application for renewal shall not be approved. Respecting the communication of such a decision and the appeal against the same, the provisions under section 5 for analogous cases will be regulating.

SEC. 10. Should the King find, on appeal, that registration of a trade-mark ought not, in consequence of the provisions in section 4, mom. 3 or 4, to have been granted, the mark shall be canceled in the register. Has registration been granted to any trade-marks consisting only of such a sign or mark, which is generally used in some trades, every person carrying on such a trade is entitled to request the cancellation of the registration. In this case, as well as in other cases, when any person considers the registration of any trade-mark has been prejudicial to him, he is entitled to sue for the cancellation of the registration at the public court.

SEC. 11. When the registration has been canceled or the protection of a registered trade-mark has ceased, or the person having a right to the mark so requests, the mark shall be canceled in the register, and a notice of the cancellation shall be inserted in the papers described in section 6.

Has a trade-mark, in consequence of the king's decision, and in pursuance to section 10, been canceled in the registry, the registering authority shall also have to notify the person on whose account the mark was registrated of the cancellation.

SEC. 12. Any person having on wares offered for sale, or on the vessels or covers in which they are contained, unduly affixed the name or firm of another person or the name of real estate belonging to another person, or any trade-mark which he knows has been registered on account of any other person, likewise any person offering for sale wares which he knows to be unlawfully marked according to the above statements, shall be fined to penalties of from twenty to two thousand crowns, or, when the infringement has caused a particular prejudice, or it otherwise be connected with particularly aggravating circumstances, he shall be sentenced to imprisonment for a time from one month to two years; he is also bound to indemnify for any prejudice caused by the infringement.

The wrongfully affixed marks shall, at the cost of the condemned party, be effaced, or if the effacement cannot take place otherwise, the wares or the vessels and covers in which they are contained shall be destroyed, provided that they are still in possession of the condemned party, or he otherwise disposes of them.

The right of prosecution for infringments according to this paragraph belongs only to the prejudiced party.

SEC. 13. The enactments of section 12 shall be applicable even in cases when the name of a firm of another person or the name of a real estate belonging to another person or any trade-mark registered for another person has not been reproduced without being in some way altered, provided that the alterations are not greater, notwithstanding differences in some parts, than that the names on the marks on the whole will be calculated to deceive.

SEC. 14. The enactments of this act do not imply any alteration of the enactments in force requiring some iron wares to be provided with brands. Such brands shall for all kind of wares for which they have been approved be considered as trade-marks according to this act, and are the brands consequently to be arranged according to the provisions of said act, the provisions of which likewise shall be regulating with respect to the registering of the brands, and to the effect of such registration. The registration of iron brands shall be renewed without any special application through the care of the registering authority.

SEC. 15. The brands described in the preceding paragraph which have been approved in the proper way and are in existence when the provisions of this act will take effect, shall, without special application, be entered in the trade-mark register by the registering authority, on which it also devolves to publish a notification of the registration in the registering paper.

Should any manufacturer in other cases than those referred to in the preceding clause employ any particular legitimate mark at the time when this act will be in force, and if such a manufacturer has, within six months after the act has taken effect, filed an application for registration in the way described in section 3, no person shall be entitled by means of a prior registration to acquire any right to the same mark or to any mark of such resemblance with it that the marks may easily be confounded. Thus, if two or more individuals, for the same kind of wares, have caused the registration of trade-marks, which mutually present such a resemblance as above is described, the person who, pursuant to the royal ordinance of June 13, 1862, had the mark earliest published as his mark, shall have preference to its use for the kind of wares for which, at the promulgation of this act, it was employed, unless any one of the other persons can prove it to be a mark originally used by him and appropriated by the other party.

In the events mentioned in the present paragraph the mark shall, notwithstanding the provisions of section 4, be registered in the form in which it has been used prior to the promulgation of this act; moreover, though the mark may consist exclusively or principally of numeral characters, letters, or words, which are not sufficiently distinguished by any singular form, it shall not be open to any other person for that description of wares for which the mark was used prior to the registration, neither shall any person be entitled to have the same mark registered or otherwise to make use of any mark of such resemblance to this mark that it will be calculated to deceive. Such registration shall not, however, except in cases for iron brands and for shipping brands on timbers, prevent any person to use as a trade-mark the initial letters of his name or of his firm.

SEC. 16. The king has the right, after agreement with any foreign state and under supposition of reciprocity, to decree that protection of trade-marks, according to this act, may be extended even to persons who, out of this realm, are carrying on such trades as described in section 1; and are with respect to such cases the provisions of said act to be applicable, provided that the following special rules in regard to trade-marks about to be registered are observed:

(1) The application for registry shall be accompanied by a certificate to the effect that the applicant has complied with the conditions required in the foreign state for obtaining protection of the trade-mark.

(2) The person for whom the registration becomes valid shall have a mandatory residing in this country with authorization to represent him in all cases connected with the trade-mark; he shall, therefore, be bound in filing the application, and subsequently on substituting mandatories, to state the name and the domicile of the mandatory, at the peril, if it be found that this provision has not been complied with, that the court shall, in occurring cases, nominate such a mandatory with legal effect.

(3) The trade-mark will enjoy protection to no greater extent nor for any longer period than in the foreign state.

With respect to trade-marks registered in a state where corresponding allowances are made for Swedish trade-marks, the king may also decree as follows:

(4) The trade-mark may, unless it be not contrary to morality and good order, be registered in the form in which it is valid in the foreign state.

(5) When any person within a period not exceeding four months from the date on which his trade-mark was deposed for registration in the foreign state has applied for registering in this realm, this application shall, with reference to other applications, be considered as deposed simultaneously with the application in the foreign state.

(6) If the registration be refused in consequence of section 4, mom. 5, and if the applicant can prove by prosecution of the person holding the right to use the mark

previously deposed or registered, that this mark is a mark used originally by the applicant, but appropriated by another person, the court may decide that the applicant shall be entitled to obtain the registration with exclusive right to the use of the mark for that description of wares for which it was used at the time when the mutual protection commenced. Prosecution on this behalf may not be made later than six months from the said time.

(7) If agreement be made with any state, the legislation of which concerning trade-marks agree with the present act, the king may, also, decree that any former trade-mark duly registered in such a state and consisting exclusively or chiefly of numeral characters, letters, or words not distinguished by any singular form, shall, if protected in the foreign state, be enjoying in this realm such special protection that other persons shall not be entitled to use the same numeral characters, letters, or words as trade-mark for the same kind of wares, unless they have used them before the mutual protection commenced. No person shall, however, hereby be prevented to use, as trade-mark, the initial letters of his name or firm. Registrations with the effect here stated may only take place within a limited period, to be fixed by the king.

SEC. 17. Further particulars as to the trade-mark register, the publication of the registering paper, and the time and way of promulgating the ordinances referred to in this act will be decreed by the king.

SEC. 18. Controversies about trade-marks shall be prosecuted at the court in the jurisdiction of which the defendant is domiciled, or when it concerns foreign marks, at the town court of Stockholm.

SEC. 19. Penalties imposed according to this act go to the crown. In default of means to pay the imposed penalty in full, it shall be permuted according to the general penal code.

SEC. 20. This act shall be in effect from January 1, 1885.

May this serve for the government of all concerned parties.

In witness whereof we have hereto put our hand and seal.

At the Royal Palace of Stockholm, July 5, 1884.

[L. S.] OSCAR.

NILS VON STEYERN.

NOTES.

The Phylloxera.—Consul-General Schuyler, under date of September 4, 1884, reports that the phylloxera has appeared in various districts of Roumania, as also of Servia. Wine has hitherto been exported from these countries to France for manufacture.

Foreign trade of Japan.—Under date of September 24, 1884, Minister Bingham forwarded to the Department the official monthly returns of the foreign trade of Japan for the months of May and June, respectively, of the year 1884, and says:

By the former it appears that the total value of the export of commodities for said month was 1,998,486 yen, and of the import thereof for the said month was 2,833,536 yen, and by the return for June it appears that the total value of commodities exported during said month was 3,133,426 yen, and of the import thereof during said month of June was 2,285,315 yen.

Emigration from Hesse-Darmstadt.—Commercial Agent Smith, of Mayence, under date of September 1, 1884, gives the following information concerning emigration from his district: The number of persons who emigrated from the Grand Duchy of Hesse-Darmstadt in 1883 is put, by the Hesse Government, at 3,589 against 3,430 in 1882, of whom 3,506 are said to have been destined for the United States. I am told that there is not so good a class of emigrants going from this vicinity to the United States as in previous years, and that their means are much more limited. Many of them have comparatively very little in their pockets, and some absolutely nothing. They are, however, people who are disposed to work, though coming generally from the very poorest and lowest classes.

Vital statistics of Hesse-Darmstadt.—Commercial Agent Smith, of Mayence, reports as follows:

The population of Hesse-Darmstadt in 1880, was 936,944. During the past year the number of deaths in the duchy, according to the official report, was 20,798, exclusive of still-births, or 21.50 per 1,000; of the deceased 5,347 were children less than one year old, and 2,317 young persons from two to fifteen years of age. From infectious diseases of all kinds there were 1,723 deaths, namely, 498 from croup and diphtheria, 368 from whooping-cough, 345 from scarlet fever, 188 from typhus and nervous fevers, 169 from measles, 49 from erysipelas, 81 from child-bed fever, 17 from small-pox, and 8 from dysentery. From pulmonary consumption 2,729 persons died, and to acute inflammation of the breathing organs 2,220 yielded. Apoplexy claimed 572 victims, of suicides there were 217, and of deaths through accidens 303.

French exports to the United States.—Under date of September 4, 1884, Consul Peixotto reports that the declared exports from this consular district to the United States for the month of August amounted to $1,122,284.73.

For the corresponding month of 1883 the declared exports were $1,373,764.46, being a decrease for August of this year of $251,479.73.

For the first eight months of 1883 the exports were	$7,888,043 40
Same period this year	7,317,168 46
Decrease this year	570,874 94

The decrease has been principally in articles of silk manufacture, which fell off to the amount of $733,270.

There was an increased export in grège and organzine silk, in argals, macaroni, optical instruments, and several other articles, but, as before mentioned, deducting the increase from the decrease, the total falling off in all articles of export from Lyons to the United States for the first eight months of the year reached $570,874.94.

It is estimated that over 15,000 silk operatives are either without employment or working quarter time.

Bradford exports to the United States.—The following statement by Consul Grinnell shows the value of declared exports from the consular district of Bradford to the United States during the month of October, 1884; the corresponding month of 1883 is also exhibited for comparison:

Articles.	October, 1884.			October, 1883.			Increase.			Decrease.		
	£.	s.	d.	£	s.	d.	£	s.	d.	£.	s.	d.
Stuffs	67,378	17	7	109,794	9	3				42,415	11	8
Worsted coatings	60,584	10	6	40,783	18	9	19,800	16	9			
Wool	39,934	13	3	46,361	7	2				6,426	13	11
Spun silk, silk goods, &c	7,320	16	11	634	12	4	6,686	4	7			
Silk seals	5,782	3	9				5,782	3	9			
Machinery	5,527	0	4	4,612	14	3	914	6	1			
Camel's hair	5,056	13	0	1,637	13	1	3,418	19	11			
Waste (worsted)	3,589	17	2	7,599	2	7				4,009	5	5
Worsted yarns	3,905	12	5	14,311	2	1				10,405	9	8
Mohair yarns	2,237	14	7				2,237	14	7			
Cotton goods	2,518	3	7	1,180	6	7	1,337	17	0			
Carpets and rugs	2,286	10	6	7,069	12	4				4,783	1	10
Woolen goods	1,819	4	3	3,837	18	5				2,018	14	2
Hair cloths	769	5	9	2,051	5	4				1,281	19	7
Chemicals	714	18	3	165	12	9	549	5	6			
Iron, steel, &c	698	10	8	1,740	1	3				1,041	10	7
Leather	529	4	4	662	10	0				133	5	8
Card clothing	632	7	2	244	5	3	388	1	11			
Shawls	312	15	0	617	9	6				304	14	6
Paper	313	0	11				313	0	11			
Tapestry, damasks, &c	244	17	11	470	17	6				255	19	7
Noils	316	4	8	1,161	4	8				845	0	0
Linen	44	12	2				44	12	2			
Miscellaneous	26	5	9	2	0	0	24	5	9			
Silk waste				1,313	19	5				1,313	9	5
Mohair goat's hair				215	9	6				215	19	6
Reeds and healds				29	2	4				29	2	4
Totals	212,544	0	5	246,496	9	4	Decrease			33,952	8	11

Mexican phosphate concession.—Under date of August 3, 1884, the consul at Guaymas reports that the Mexican Government celebrated, on the 10th day of June, 1884, with Luis Huller, a contract conceding to him and his associates the permission to export from the islands in the Gulf of California, which bounds this consular district, all phosphate of lime and sulphur which may be found on the said islands, under certain conditions named in the contract.

Mexican colonization concessions.—The Mexican Government celebrated a contract on the 23d day of June, 1884, with Adolf Büille for the survey of the lands situated in the districts of Alamos and Guaymas, in this consular district, and a zone or belt of land in the peninsula of Lower California, between the ex-missions of Santa Gertrudis and San Borja, to open a canal on the Yagin River, in the district of Guaymas,

for irrigation of the lands of the same; the obligation of which is, that the said Adolf Bülle, in making the survey of the districts named, shall separate the private from the public lands, and colonize within five years certain portions of the public lands with colonists. This contract, in case its stipulations and conditions are carried out, has from twenty to fifty years to be in force.

The Government also, on the 24th of July last, celebrated with Luis Huller a contract for the survey of the island of Codras, situated off the west coast of Lower California in the Pacific Ocean, latitude 28° and 29°, and to establish agricultural colonists on said island; also for the establishment of agricultural colonists in the territory of Lower California between the parallels of 29° and 32°, 42° north latitude.

This contract is to continue, in case its stipulations and conditions are fulfilled, for the term of ten years.

Referring to the foregoing contracts, Consul Willard remarks:

I beg leave to state that the foregoing contracts celebrated by the Mexican Government and the persons named have been made in the interests of American capitalists, and the company or companies to be formed to carry out the same shall be considered as Mexican, subject entirely to the jurisdiction of the courts of the country in case of difficulty, and under no pretext shall the persons interested or the colonists that may go there claim any rights excepting such as are conceded to Mexican citizens in all that pertains to said enterprise.

Silk commerce of France.—Under date of August 26, 1884, Consul Peixotto, of Lyons, submits the following statistics concerning the silk commerce of France:

The imports and exports of silks and silk goods for the first seven months of the year ending July 31, 1884, compared with same period in 1883, as given by the French customs authorities, have been as follows:

Description.	1884.	1883.
Cocoons.	*Kilograms.*	*Kilograms.*
Imports	631, 800	472, 852
Exports	487, 900	320, 845
Excess of imports	143, 900	152, 007
Grège silk.		
Imports	2, 222, 000	2, 038, 621
Exports	839, 200	869, 543
Excess of imports	1, 382, 800	1, 169, 078
Worked silks.		
Imports	559, 500	689, 080
Exports	116, 300	129, 020
Excess of imports	443, 200	562, 060

It will be seen from the foregoing table that there has been a considerable falling off in the export of worked silks.

From 562,060 kilograms, the quantity exported last year, the decline has been to 443,200 kilograms for same period this year. This decrease specially relates to the exports of French worked silks to Germany and Switzerland.

To the former country 15,386 kilograms were exported in 1883, against only 8,200 kilograms this year.

To the latter the difference is still greater, this year 97,100 kilograms against 107,305 in 1883, and 170,915 kilograms in 1882.

The opening of the Saint Gothard Railway, bringing Germany and Switzerland in direct communication with the great centers of production in Italy, will account for this important decrease. France has lost and will still more suffer in her commerce with these countries from this fact.

Silk goods have also suffered, as will appear from the following comparative table:

Description.	1884.	1883.
Plain and figured silks, pure quality.	*Francs.*	*Francs.*
Exports	61, 699, 332	77, 629, 334
Imports	20, 626, 916	17, 549, 085
Excess of exports	41, 072, 416	60, 080, 249
Mixed silk goods.		
Exports	40, 071, 821	40, 663, 769
Imports	2, 089, 040	2, 860, 192
Excess of exports	37, 982, 781	37, 803, 568
Other silk manufactures: Laces, gauzes, tulles, ribbons, trimmings, hosiery, &c.		
Exports	53, 882, 953	56, 854, 124
Imports	2, 633, 257	3, 822, 085
Excess of exports	51, 249, 696	53, 032, 039

Thus the total exports of all kinds of silk manufactures for the first seven months of 1883 amounted to 175,147,218 francs, against 155,654,106 francs for the same period of this year, a decrease of 19,493,112 francs.

The present month will not improve matters, the exports, judging from those of Lyons, are thus far considerably behind those of August, 1883.

The raw-silk market of Lyons continues dull, but prices of European silk remain firm.

The Franco-China war has not yet affected prices of China silk and is not likely to do so to any serious extent, owing to the fact of there being large stocks in London and to the little favor those silks now enjoy.

Treatment of henequen fiber by machinery.—Under date of October 31, 1884, Mr. Romero, minister of Mexico at Washington, inclosed to the Department a slip, of which the following is a translation, from the official paper of the State of Yucatan, containing a decree issued on the 30th of September last by the legislature of said State, offering a premium of $20,000 to the inventor of such a machine, under the condition therein stated:

Decree by the State, issued on the 30th of September, 1884.—*No.* 52.

[Translation.]

The tenth constitutional legislature of the free and sovereign State of Yucatan, in the name of the nation, decrees:

ARTICLE 1. A reward of $20,000 is offered to the person who, within three years, furnishes a machine for extracting henequen, under the following conditions.

I. It must be automatic, and not require skilled and experienced workmen to manage it.

II. It must be entirely free of danger to the operators.

III. It must require less motive force than the machines now in use, with relation to its producing power.

IV. It must increase the production or extraction of the fiber within a given time, diminishing its loss, compared with the various machines in use.

ART. 2. The Government, at the expiration of the appointed term, will appoint a commission, consisting of three engineers, three planters (hacendados), and one manufacturer (industrial), who shall decide if the machine deserves the reward, in which case the general treasury will be directed to pay the sum to the favored party.

ART. 3. Should two or more machines, uniting all the conditions required by the Government, be exhibited, the Government, by reason of the report of the board of experts, will grant the reward to the proprietor of the machine which may offer greatest advantages.

ART. 4. The concession of this reward is without prejudice to the proprietor of the machine which may offer greatest advantages.

ART. 5. The concession of this reward is without prejudice to the right of proprietorship and of patents that inventors may merit conformably to the laws.

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REPORTS

FROM THE

CONSULS OF THE UNITED STATES

ON THE

COMMERCE, MANUFACTURES, ETC.,

OF THEIR

CONSULAR DISTRICTS.

No. 47.—November, 1884.

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CONSULAR REPORTS

ON

COMMERCE, MANUFACTURES, ETC.

No. 47.—NOVEMBER, 1884.

AMERICAN TRADE IN NORTHEASTERN MEXICO.

REPORT BY CONSUL FECHÉT, OF PASO DEL NORTE.

COMMERCIAL EXPECTATIONS.

The principal events of the past fiscal year, affecting commercial interests, were the completion of the Mexican Central Railway to the City of Mexico and the opening of the road for through traffic about April 1, 1884, and the establishment of a free zone along the border between the United States and Mexico from Matamoros to Nogales. These two events, and the ratification of the then pending reciprocity treaty between the United States and Mexico, were confidently expected to cause a degree of commercial activity heretofore unknown along the northeastern portion of Mexico, and of which Paso del Norte is the chief town and the *entrepôt* for the interior of Mexico. Upon the opening of the Mexican Central Railway, and anticipating the immediate establishment of the reciprocity treaty, representatives of the leading commercial houses of our principal cities visited the cities and towns of Mexico, and prepared to actively compete for their trade.

DROUGHT AND FAILURE OF CROPS.

From causes not necessary to discuss in this report, Mexico is passing through a period of great financial depression, governmental and commercial. Drought has prevailed in many States, crops have failed, stock in large numbers have died; these causes have combined to make a bad year for business. Large quantities of corn have been shipped from the United States to supply the deficiency caused by failing crops. Heavy rains have now prevailed for some weeks over a large area.

TRADE OUTLOOK.

The incoming Mexican administration is confidently expected to do much for the development and fostering of Mexican interests; frontier customs regulations are to be materially modified, and many restrictions removed. With the reciprocity treaty in force and the Diaz adminis-

tration wisely shaping Mexican interests, merchants of the United States largely interested in Mexico anticipate that the coming year will be one of great commercial activity and prosperity.

AMERICAN TRADE AT PASO DEL NORTE.

American products, such as breadstuffs, machinery, mining and agricultural wagons, carriages, tools, boots and shoes, petroleum, cotton goods, groceries, hardware, &c., are sold to Mexico, and the demand is steadily growing. A comparison of Exhibits A, B, C, D, showing total value of declared exports at Paso del Norte for the years 1880–'81, 1881–'82, 1882–'83, and 1883–'84, will show the growth of trade at this point since the opening of the railroad. Exhibit E shows total exports 1883–'84, in the United States customs district of Paso del Norte across the border from, and about co-extensive with, this consular district. The compilation of the imports of this port for the past fiscal year is not completed; tables showing kinds, quantities, and value of imports, principally American, are being prepared by the chief of the customs at this place, and I will forward them with a supplemental report.

FOREIGN BONDED-GOODS TRADE.

The business in foreign bonded goods is extensive. From March 15 to June 30, 1884, value of foreign bonded goods entering Mexico at this point was $568,704.15; prior to March 15 records of consulate do not show value of bonded foreign goods.

The foreign goods entering Mexico in bond from transit through the United States embrace nearly every class of goods sold to Mexico from the United States. That the American goods, with the advantages derived from the reciprocity treaty, will in a large measure drive foreign goods out of the Mexican markets can hardly be doubted.

FRUIT SHIPMENTS TO THE UNITED STATES.

With the advantages of quick transportation by rail, a trade in tropical fruits has sprung up. Fruit-cars laden with pineapples, bananas, lemons, oranges, and mangoes are attached to the express train from the city of Mexico. So far this fruit has been consigned to our western cities remote from the Atlantic seaboard.

EUGENE O. FECHÉT,
Consul.

UNITED STATES CONSULATE,
Paso del Norte, October 12, 1884.

EXHIBIT A.—*Statement showing the value of declared exports from the consular district of Paso del Norte to the United States for the fiscal year ending June* 30, 1881.

Articles.	Value.	Articles.	Value.
Wheat	$1,734 09	Jelly	$28 60
Corn	2,504 55	Beans	270 22
Barley	2,043 20	Dried fruits	5 74
Brown sugar	1,241 88	Cattle	14,514 39
Sweet potatoes	147 95	Horses	116 00
Soap	149 55	Hogs	52 42
Whiting	376 34	Pork, dressed	105 75
Lime	11 28		
Chocolate	179 38	Total exports	23,501 40

EXHIBIT B.—*Statement showing the value of declared exports from the consular district of Paso del Norte to the United States during the fiscal year ending June* 30, 1882.

Articles.	Value.	Articles.	Value.
Beans	$188 60	Wool hats	$102 50
Brown sugar	1,635 01	Blankets	89 18
Soap	48 18	Whiting	41 08
Chocolate	149 14	Sweetmeats	52 28
Cheese	4 92	Cattle	5,622 25
Coffee	12 32		
Hides	478 60	Total exports	8,424 06

EXHIBIT C.—*Statement showing the value of declared exports from the consular district of Paso del Norte to the United States during the fiscal year ending June* 30, 1883.

Articles.	Value.	Articles.	Value.
Beans	$917 72	Whiting	$220 33
Soap	79 44	Earthenware	8 20
Beef, dressed	171 11	Cattle	45,790 62
Chocolate	297 51	Hogs	681 83
Cinnamon	5 38	Horses	2,481 58
Brown sugar	1,314 85		
Crude drugs	19 97	Total exports	52,117 68
Wheat	121 14		

EXHIBIT D.—*Statement showing the value of declared exports from the consular district of Paso del Norte, Mexico, to the United States during the fiscal year ending June* 30, 1884.

Articles.	Value.	Articles.	Value.
Mares and colts	$5,167 64	Straw hats	$405 00
Stallions	563 50	Straw mats	11 25
Cows and calves	19,306 28	Cotton shawls	5 50
Bulls	783 50	Woolen blankets	15 00
Steers	59,644 50	Toys	87 50
Horses	9,506 95	Saddles	7 00
Mules	2,948 00	Saddle equipments	29 18
Burros	26 00	Leather leggins	8 00
Hogs	22 50	Leather shoes	4 50
Hides, dry	10,682 00	Earthenware, painted, Guadalajara	168 79
Sheepskins	510 00	Platina crucible	3,500 00
Beef, dressed	907 76	Jewelry	435 92
Pork, dressed	71 82	Mexican opals	200 00
Fresh fruits	87 50	Dirt scrapers	20 00
Brown sugar	1,090 00	Cigars	10 00
Beans	1,296 00	Silver-lead ores	45,170 00
Cheese	55 55	Silver-lead concentrations	30,400 00
Bran	85 00	Silver coin	1,979,400 18
Chocolate	297 54	Silver bullion	389,389 65
Sweetmeats	83 03	Copper in pigs	2,240 00
Soap	13 79	Lead in pigs	44 00
Whiting	31 14		
Palm hats	28 66	Total exports	2,564,468 13

EXHIBIT E.—*Statement showing the value of exports from the customs district of Paso del Norte to the United States during the year ending June* 30, 1884.

Articles.	Quantity.	Value.	Articles.	Quantity.	Value.
Coin		$1,912,430 00	Sugar, pounds	29,189	$2,150 00
Bullion		1,035,308 00	Beans, bushels	5,066	8,015 00
Ore		111,857 00	Wheat, do	438	679 00
Copper, pounds	9,091	909 00	Chili, pounds	4,186	835 00
Cattle, head	42,981	539,596 00	Earthenware		483 00
Horses, do	4,828	46,868 00	Hats		798 00
Mules, do	91	2,019 00	Featherwork		42 00
Burros, do	45	268 00	Fish		964 00
Beef, dressed, pounds	104,351	8,287 00	Grapes		1,629 00
Hides	5,163	12,918 00	Other fruits		7,363 00
Barley, bushels	1,972	2,011 00			
Corn, do	2,951	3,116 00	Total exports		3,704,688 00
Vegetables		4,639 00	Less coin and bullion		2,947,738 00
Bran, pounds	26,857	194 00			
Butter, do	1,774	564 00	Value other products		756,950 00
Salt, do	209,330	746 00			

AMERICAN VS. RUSSIAN CORN IN IRELAND.

REPORT BY CONSUL LIVERMORE, OF LONDONDERRY.

I beg leave to state some facts and to submit some observations concerning the trade of this port in maize.

The quantities of that cereal imported from the United States and the quantities imported from the ports of the Black Sea during the years indicated in the following table have been as therein set forth:

Year.	From the Black Sea.	From the United States.
	Tons.	*Tons.*
1879	2,313	67,097
1880	.....	60,752
1881	3,953	44,818
1882*	28,543	28,543
1883	10,349	43,248
Nine months of 1884	23,880	18,805

*There is evidently a mistake in the imports for 1882, as given by the consul, both columns agreeing exactly.

Of the causes of the decadence of the trade in American maize shown by this statement it is the aim of this paper to bring to your notice. One cause seems worthy to engage the attention of parties interested in the removal of every obstruction that may be found to impede the free movement of that branch of commerce—I refer to the difference in the terms offered by the Greek and American merchants respectively dealing in this cereal.

The former sells on what are known as "the rye terms," which are to the effect that his goods shall be at the port of consignment of the quality or grade represented, and that any portion found otherwise shall be submitted to arbitration for determining the detriment or difference to be subtracted from the price.

The American dealer, on the other hand, sells by the inspector's grading, whose certificate attends the bill of lading and bills drawn for the price.

The consequence is said to be, and may easily be supposed to be, that a larger proportion of damaged cargoes is found among those coming from the United States than among those coming from the ports of the Black Sea. The loss in the former case falls entirely on the purchaser, who has no remedy, while in the latter it is deducted from the price by the award of the arbitrators.

It is impossible to suppose that the manifest advantage of these last-named terms should not prevail, even against some difference of price, in securing a preference for the market that is governed by them.

Nor should it create amazement that parties suffering irreparable loss through damaged cargoes should express themselves with some force against the usages of trade that leave purchasers so exposed to losses; nor that they should denounce the system of inspection as wholly illusory as regards the security for which it is colorably designed; nor that they should affirm that at times when the stocks of maize in port are small the pressure for "grade" is too strong for resistance, and that it does in part prevail, if not to the extent of governing whole cargoes

with false certificates, at least so far as to admit a portion of unseasoned corn sufficient to destroy the remainder on the voyage, and that in the flush of large transactions attention to details becomes relaxed with similar consequences.

And, finally, that the great and skillful care demanded in the selection of maize for shipment is the natural growth of personal interest and responsibility, and cannot with confidence be expected to be found in mere functionaries.

ARTHUR LIVERMORE,
Consul.

CONSULATE OF THE UNITED STATES,
Londonderry, October 9, 1884.

CATTLE EXPORTS TO THE UNITED KINGDOM.

REPORT BY CONSUL RYDER, OF COPENHAGEN.

I have herewith the honor to present a report in connection with a circular which has been addressed by the "Foreign Cattle Trade Association" to all parties interested in this trade, containing a list of precautionary measures which they consider it to be imperatively necessary to have enforced at all the different shipping ports in the exporting countries, in order that the free importation of their live stock may not become fettered by severe restrictive regulations.

It is at the same time impressed upon the minds of all persons concerned with this trade that they must clearly understand that under the present depressed condition of agriculture in England the opposition to all such foreign imports of live stock is always on the increase, and that the slightest suspicion that could be brought forward of any existing disease amongst the imported herds might at any moment lead, in the first instance, to more restrictive measures being imposed by the British sanitary officers, and, perhaps, ultimately to a prohibition of such imports from the suspected country.

The English agricultural party, it must also be remembered, is always on the alert. They have already obtained a partial victory in the enforcement of stricter import regulations, together with a more searching examination of the condition and health of the animals on arrival at their ports. Furthermore, this party never loses sight of the great object they constantly keep in view, namely, the entire prohibition of imports of all live stock into the kingdom.

Foreign nations can therefore best meet these opponents by devoting constant and careful attention that all animals leaving their ports for Great Britain are in a perfectly sound and healthy condition.

The precautionary measures recommended by the association for adoption at the shipping ports are of the following nature:

1. That all railway wagons or other descriptions of transport employed in the conveyance of animals to the port of shipment, as also all stalls, sheds, landing stages, and all other localities and places in the ports with which the animals (sound or otherwise) have been in contact should be thoroughly cleaned and disinfected on every occasion when they have been in use.

2. That all vessels employed in the conveyance of live animals shall be carefully examined before shipment of the animals is permitted to take place, and in all cases where the vessel is found to have been in-

sufficiently cleaned or disinfected, that the shipment of all animals shall be strictly prohibited before the ship is certified to by the veterinary as serviceable in all such respects.

3. That all animals intended for shipment to England should, as far as possible, be at the port of shipment at the least twelve hours prior to the commencment of loading.

4. That all animals should be carefully examined by an efficient and trustworthy veterinary surgeon immediately on their arrival at the port of shipment and again immediately before the loading takes place.

5. That each lot of animals arriving at the port should, so far as possible, be kept separate from each other. In no case, however, must the different lots be allowed to mingle one with the other before they have been examined by the veterinary and by him declared to be in perfectly sound and healthy condition.

6. That whensoever it should occur that any animal which at either of the veterinary's examinations should be found to be suffering from or presenting the slightest suspicion of foot-and-mouth disease, such animal, as well as all others with which it may have been in contact, shall be marked, and neither said animal nor any from the same lot (whether this be large or small) shall on any account be permitted to be shipped. It will not be sufficient to separate the sick from the sound and then allow the latter to be sent, inasmuch as on their arrival in England they may possibly show symptoms of the disease, in which case further importation from that port and the country thereof will doubtless be prohibited by the English authorities.

7. That it is only permitted to ship perfectly sound and healthy animals to Great Britain, and, so far as it can possibly be avoided, no animal that may have been detained over from shipment should be allowed to remain at the port of shipment after the departure of the vessel.

8. That all vessels employed in the conveyance of live animals shall be thoroughly cleansed and disinfected immediately after the cargo has been discharged.

9. That all parties interested in the unrestricted maintenance of the cattle trade with Great Britain shall at all times exert their best influence that no unsound or unhealthy animal be sent to England.

10. That these regulative measures be duly translated into the language of the exporting country and fully made known to all parties in any way connected with the trade.

HENRY B. RYDER,
Consul.

CONSULATE OF THE UNITED STATES,
Copenhagen, September 20, 1884.

RAILROADS AND AMERICAN INTERESTS IN GUATEMALA.

REPORT BY CONSUL-GENERAL H. REMSEN WHITEHOUSE.

On the 30th of August last the city of Guatemala was placed in direct communication with the port of San José, on the Pacific coast, by the opening to traffic of the line connecting Amatitlan with the capital. The advantages which must accrue to Guatemala City and the rich coffee and sugar growing districts about it, as also to those through which the line runs, are incalculable. And the change in the mode of transport cannot be other than beneficial to American imports.

Heretofore all goods have been conveyed either on pack-mules or in ox-carts (frequently uncovered) over the roughest of rough mountain roads,

and much complaint has been occasioned by the apparent incapacity of American manufacturers to pack their wares with sufficient care to withstand this rough transport and exposure. In fact, the neglect of this seemingly insignificant "art of packing" has been the cause of a serious falling away of the Central American custom of our merchants; a fact the more to be regretted, as the remedy is so entirely in the hands of those interested, and the difficulty surely one very easily to be overcome.

The total length of line is 72 miles, single track, and the narrow (three-foot) gauge. Very heavy grades (in places over 4 per cent.), deep cuttings, seven high trestle bridges, and considerable trouble with made ground on the lake of Amatitlan were the chief engineering difficulties to be conquered.

Between Esquintla and Palin, a distance of 19 miles, the road rises over 3,000 feet, climbing through rich coffee and sugar plantations and beautiful scenery. The total rise between San José and Guatemala is within a few feet of 5,000.

The entire rolling-stock was imported from the United States, as was also a small portion of the steel rails used, although the greater part of steel rails was brought from England.

The cars are of two kinds—first and second class. The engines consume almost exclusively wood; coal, being exceedingly scarce in this country, is only used on the steepest grades.

The line from Esquintla up has been built in a little less than a year, and the heavy work done entirely by natives. It is owned by an American company, and, with few exceptions, the shareholders are in New York and San Francisco.

A branch line from Amatitlan to Antigua, the old capital, is projected. The coffee estates of that region are very large, and, although 1,000 feet above the table-land of Guatemala, the quality of the produce is fine.

I would add that, with the exception of a short line of about 50 miles, running between Champerico and Retahulen, on the Pacific coast, this is the only railroad in the Republic.

The survey and, in parts of the department of Chiquimula, the actual work for the Northern Railroad, which will connect Guatemala with Santo Tomas, on the Gulf of Honduras, a distance of 160 miles, is being actively pushed forward.

This line is being constructed by a forced national subscription.

H. REMSEN WHITEHOUSE,
Consul-General.

CONSULATE-GENERAL OF THE UNITED STATES,
Guatemala, September 1, 1884.

FREIGHT TARIFF BY THE GUATEMALA AND SAN JOSÉ RAILROAD.

EXPORTS.

*(Guatemala to San José; distance, 72 miles.**

Manufactured articles of all classes, statues, curiosities, hides in bales, sarsaparilla, woolen goods, baggage, per 100 pounds	$1 25
Loose hides, each	25
Horns, rubber, seeds, indigo, fibers, drugs, or other natural products of the country, per 100 pounds	1 00
Coffee, per 100 pounds	75
Sugar, ordinary and unrefined	40
Gold, silver, articles of value (ad valorem), $\frac{1}{16}$ per cent.	

* Local freight, *i. e.*, between stations, is carried at the rate of 25 cents per ton per mile.

IMPORTS.

San José to Guatemala; distance, 72 miles.

Carriages, for two persons, with cover	45 00
Carriages, for two persons, uncovered	25 00
Carriages, for four persons, with cover	65 00
Carriages, for four persons, uncovered	45 00
Carriages, for large family	90 00
Pianos, horizontal	43 00
Pianos, vertical	30 00
Billiard tables, mirrors, furniture, closets, organs, clocks, &c., per 100 pounds	3 00
Chandeliers, trunks, barrels, boxes, baskets, demijohns, casks and empty pipes, fine glass, corks, pictures, wheelbarrows, mattresses, horse-hair, beds, statuary, vermicelli, forge bellows, faucets of iron or metal, lanterns, bird cages, harness, manufactured rubber, toys, musical instruments, surgical, engineering, or artistic instruments, tin or manufactured metal, such as coffee pots, lanterns, &c.; fine earthen ware, lamps, hops, light and heavy machinery, moldings, live plants, blinds, perfumery, hardware, ready-made clothing, wheels on axels, hats, chairs, silks, tobacco, manufactured or in leaf, velocipedes, earth-sifters, and all other articles, light or heavy, not herein enumerated, per 100 pounds	2 00
Turpentine, naphtha, rockets, powder, inflamamble liquids, acids, matches, per 100 pounds	1 20
Oils, small packages, pickaxes, tar, copper, varnish, pitch, preserves, eatables, cinnamon, boxes, casks, barrels and demijohns containing liquids bottled or in casks; made-up shoes, hides, assorted or manufactured girdles for machinery, &c., nails, coal, drugs, common ironware, various classes of cotton, wool, or linen; tools, horseshoes, implements of agriculture, books, ordinary earthen and glassware, paper of all kinds, stationery, petroleum, paints, knives, rosin, salt, screws, gypsum, per 100 pounds	1 00
Baggage, of which neither contents nor value is declared, per 100 pounds	1 25
Cement, barley, alimentary grains, flour, iron, lead, copper in bars, pigs, or ingots, metal plates, bricks, empty sacks, seeds, wheat, per 100 pounds	80
Heavy machinery, per 100 pounds	80
(Exceeding 1 ton in weight 10 centavos for every extra 100 pounds exceeding 2 tons, 20 centavos for every 100 pounds.)	
Wood, per 1,000 feet	20 00
Wood, per car load	100 00
(Pieces more than 25 feet long, according to special arrangement.)	
Sheet-iron (for roofing), every 1,000 sheets	2 50
Jewelry, precious metals in bars, plates, or ingots, gold, silver, and articles of value (ad valorem), $\frac{1}{8}$ per cent.	
Horses, whose value does not exceed $200 each	25 00
Cows, whose value does not exceed $100	20 00
(If in excess of the above values, 5 per cent. on excess.)	
(Dogs pay half of second-class fare and are taken in charge by brakeman.)	
No package carried for less than	25

AMERICAN INTERESTS IN HAMILTON, CANADA.

REPORT BY CONSUL HAZELTON.

The American interests at this post are varied, growing out of the importation of iron, coal, cotton, machinery, hardware, manufactures of steel, paper, manufactures of wood, of wool, tobacco, and very many other products and manufactures of the United States. Nine large iron foundries are in operation here manufacturing stoves and furnaces; two cotton factories, using annually 5,000 bales of cotton, besides numerous other establishments for the manufacture of agricultural implements, clothing, boots and shoes, scales, glass, furniture, hardware,

tinware, musical instruments, &c. The exports from this consular district to the United States consist principally of animals, barley, eggs, hides, lumber, malt, settlers' effects, wheat, wool, and vegetables. These exports in the year 1881 amounted to $1,910,688; in 1882 to $1,609,563; and in 1883 to $1,269,754, showing a large falling-off, owing to the failure of the crops in 1882 and 1883.

The consular agency at Paris is located 30 miles west of Hamilton, in the center of a fine farming country; its principal exports to the United States being animals barley, eggs, hides, split peas, and turnips. The failure in crops for the last two years has been seriously felt at this agency as well as Hamilton. This year, however, the crops, especially of barley, are very heavy, and business is reviving rapidly.

The consular duties at this post are chiefly commercial, requiring of the consul hard and careful labor. Many of the invoices have to be certified out of office hours to accommodate shippers of live stock and others who reside in parts of the district remote from the consular office, and who accompany their property to the port of entry. The fees received at this post for certified invoices in the year 1881 amounted to $2,538.50; in 1882 to $2,171, and in 1883 to $1,654.50. Hamilton is a city of about 45,000 inhabitants, and is growing rapidly. Its railroad connections with the United States are very extensive, and its business generally is in the hands of competent and energetic men, who are striving very hard to achieve success.

J. F. HAZELTON,
Consul.

UNITED STATES CONSULATE,
Hamilton, September 30, 1884.

Statement showing the value of declared exports from the consular district of Hamilton, Canada, to the United States, during the year ended December 31, 1883.

Articles.	Hamilton.	Paris.	Total.
Animals	$94,116	$75,447	$169,563
Apples	2,615	.....	2,615
Barley	91,573	212,492	304,065
Beans	3,748	.....	3,748
Bones	2,775	.....	2,775
Castings	1,193	.....	1,193
Cotton waste	8,568	.....	8,568
Eggs	43,177	46,270	89,447
Flax	.....	4,711	4,711
Glue stock	903	.....	903
Granite	1,783	.....	1,783
Hides	40,975	16,591	57,566
Hogs' hair	2,147	.....	2,147
Lumber	29,390	.....	29,390
Machinery	2,602	46,165	48,767
Malt	107,906	37,649	145,645
Rye	5,610	3,054	8,664
Sand	926	26,860	926
Settlers' effects	48,109	26,860	74,969
Sewing machines	13,913	.....	13,913
Split peas	.....	33,891	33,891
Scrap iron	9,128	.....	9,128
Turnips	1,386	14,885	16,271
Wheat	47,791	.....	47,791
Wool	154,758	.....	154,758
Miscellaneous	20,484	16,073	36,557
Total	735,666	534,088	1,269,754

NAVIGATION AND TRAFFIC ON THE MAGDALENA.

REPORT BY CONSUL DAWSON, OF BARRANQUILLA.

A few months ago I ascended the Magdalena River as far as Honda, the head of navigation for large steamers, and made some notes which I now have the honor to submit, concerning this principal river of commercial importance in the United States of Colombia, formerly New Granada.

The want of information in the United States, and the drift of investments toward this country by business men at home, are perhaps a sufficient reason for this effort, aside from my own desire to do all I can to develop more fully the commercial relations between the people of the two neighboring republics.

THE GEOGRAPHICAL POSITION OF THE MAGDALENA.

This river has its rise in the Laguna de las Papas (Potato Lake), in the high lands of the southern part of the country about centrally east and west, in latitude 1° 30′ north, and longitude 76° 20′ west, and at an elevation of 14,272 feet above the sea-level in a temperature of 41° F. From its source the river runs nearly due north, the east and west deflection not being over 2½°, and empties into the Caribbean Sea in latitude 10° 59′ north and 74° 50′ west longitude. Hence the length of the river, measured on a meridian, would be 569 miles, but according to the most authentic information the actual distance is about 900 miles, a difference of 331 miles, due to the sinuosity of the stream. It is difficult to state the width of the river, because throughout the main part of its length it is interspersed with islands which make it appear narrow, while in reality the extent of ground overflowed between bank and bank is enormous, measuring in some places at least 10 miles.

The well-defined mouths of the stream are Boca Vieja, Boca Nueva, and Boca de Ceniza. The latter is the most direct and only one open to navigation. The depth of water on the bar at this mouth varies from 10 to 20 feet. Generally it is safe to enter with vessels drawing 12 feet, but this should not be attempted without a pilot. It has been proposed, and would be practicable, to jetty the mouth so that it would be navigable to the largest ships frequenting this harbor. Inside the bar a channel of from 40 to 60 feet depth can be found for a distance of about 20 miles.

BRANCHES.

From the water-shed of the eastern mountain chain the principal branches are the Suaza, Reiva, Cabrera, Prado, Fusagasugá, Bogota, Negro, Opon, Sogamoso, Suratá, Lebrija, and Cesar; from the central mountain chain the Plata, Páez, Saldaña, Cuello, Gualy, Samaná or Miel, Nare, Lobo, and Cauca. The latter is the principal tributary, draining, with its branches, one of the finest valleys in the country. In addition to these there are a large number of creeks, which, connecting with each other and with adjacent lagoons, afford water communication with the ocean and several places, from Carthagena on the west to Santa Martha on the east.

ELEVATION AND TEMPERATURE.

Owing to the great elevation of the headwaters (14,272 feet above sea-level) the temperature of the country traversed varies from 41° to 90° Fahrenheit, the coldest being nearest the equator. Within these limits the proper zone for any growth can be secured. The great elevation at its source causes a very swift river current, which has been found in some places to run 15 miles per hour. On the lower river the mean movement of the current generally is 2½ miles per hour; on the upper river from 3 to 6 miles per hour.

From Barranquilla to Conejo the difference in elevation is 1.12 feet per mile; from Conejo to Honda 1.96 feet per mile. At the latter place the first rapid to impede navigation is found. The water of the Magdalena in its different localities partakes of the quality of the several rivers entering into it; from the black water of Rio Negro to the clear water of Rio Nare. Near the mouth the water is surcharged with sediment holding 18.5 cubic inches of solid matter per cubic yard of water; relieved of this by filtration the water is remarkably pure, and furnishes drink for man and beast, living springs being rarely found in this country.

OLD AND NEW SYSTEMS OF RIVER NAVIGATION—POLITICAL DIVISIONS.

This river forms one of the boundary lines of the following States: Bolivar and Magdalena; Antioquia and Santander; Tolima and Cundinamarca. Thus of the nine states of Colombia, six have their borders washed by this majestic stream, and all but one (Panama) use it to transport their merchandise.

The names of the cities and towns, their distance from Barranquilla, their respective latitude and longitude and elevation (when known), and the time employed by steamers in going up or down the river will be found in Table No. 1.

Owing to natural obstacles the navigation of the river is divided into five parts, viz, from Bateas to Neiva, rafts and canoes; from Neiva to La Noria, steamboats, barges, rafts, and canoes; from Caracoli to Barranquilla, steamboats, barges, and canoes; from Barranquilla to the ocean, barges, sailing vessels, and small ocean steamers.

Before speaking in detail of the present means of river communication, it will be well to refresh the memory by recalling the old system of travel and to note the march of improvements.

Before the age of steam, travelers and cargo were transported on sharp-prowed barges, propelled by natives provided with long poles which they placed against the bank or bed of the stream, and, by pushing, sent the boat against the current. As their progress was but 10 or 12 miles a day, a trip to the interior was tedious, costly, and wearing upon the constitution. When going with the stream they would use large rough paddles as oars and make good progress. The freight on a ton of goods by this system, between Barranquilla and Caracoli, was about $160. In 1825 steamboats were introduced, but the line was abandoned. In 1839 another attempt was made and steamers started, but a revolution stopped this effort in 1841. During the period from 1847 to 1852 the first successful company was formed with a flotilla of four vessels, built in the United States and steamed across the ocean to their destination. From this the business has increased until the present time. There are now six companies owning 27 steamboats, besides the fleet of barges still retained, required to ac-

commodate the great trade centering on this artery of communication. In order to have a correct idea of the capital invested, risks encountered, and perseverance required to attain this end, it must not be forgotten that over forty steamers have laid their ribs in the muddy Magdalena, victims to too close an acquaintance with the rocks in the rapids or snags below.

The average draft of these steamboats is from 3 to 5 feet, and one or two will carry 150 tons dead weight on 3 feet of water. Their hulls are sheathed with steel, and built throughout in the most thorough manner. Formerly all had high-pressure engines, but, for economical reasons, the compound engines are being used, and the electric light is supplanting the age of tallow dips. A few side-wheelers remain, but all the new boats have stern-wheels. A list of the steamboats, their owners, tonnage, and other data, will be found in Table No. 2.

RIVER AND RAILROAD COMMUNICATION.

Since the development of the river trade by the use of steam, great efforts have been made to open direct communication with distant points, to lower the freight charges on goods, to reduce the time of transit, and provide against rehandling. Among the first of these efforts was the Barranquilla and Salgar Railroad. Owing to the impracticability of passing the bar at the mouth of the Magdalena, three ports were frequented, viz, Santa Martha, Carthagena, and Savanilla, all reached from the river by intricate and narrow creeks. In 1870 a railroad was constructed by a private company, connecting the river at Barranquilla with the bay of Savanilla at Salgar. The terminus was not placed so as to accommodate the ocean steamers, consequently a tug-boat and barge service had to be maintained between the wharf and steamers. Imperfect as it is, the working of this railroad has revolutionized the carrying trade, and made Barranquilla a port of chief commercial importance. The National Government purchased the railroad in 1876, and have now concluded negotiations whereby it will be extended to a deep-water terminus at Puerto Belillo. When these improvements are perfected, two handlings of the freight will be avoided, and the cost of the freight materially reduced. In fact, freight rates on the river have already been lowered within a short time from four to one dollar per cargo. The railroad (14 miles in length) has been of immense benefit to the country, and is the forerunner of many contemplated lines.

The Government has spent large sums of money in trying to open a canal from the river at Calamar to Carthagena, known as the Dique, but as yet with only partial success. It has also granted a concession to a private company to connect the river with Santa Martha by a railroad. This is well under way. Barranquilla has the advantage of being situated near the mouth of the river, thus accommodating the sailing vessels, and has only 14 miles of railway to connect with the seaboard, while Santa Martha is 75 miles from the river, and Carthagena is 90 miles.

CITIES AND TOWNS ON THE MAGDALENA.

Barranquilla.—Barranquilla is situated on the banks of a small creek, or caño, connecting with the river, on a side-hill with an eastern exposure. Its position, substructure, and outlying country all tend to promote general healthiness and to facilitate prompt dispatch of business. It has about 25,000 inhabitants, and has attained this size and

importance since it became the terminus for the steam lines plying on the river, and the entrepot for the main business of the country. The mail steamboats for the interior are dispatched every six days, leaving the wharf at 10 a. m. There are intermediate steamers dispatched on irregular dates. From the wharf the course is north for about 3 miles to the mouth of the caño, where it enters the swift-flowing, muddy Magdalena. In about one hour the steamer is in front of the city. From the river, the city, with its massive arched buildings crowding upon each other for a long distance; its cathedral spires; its factory and steamboat chimneys, breathing out fire and smoke in steady pulsations; and its background of tropical greenness, give a picture of grandness, solidity, and activity seldom seen under a tropical sky, and which places Barranquilla in the van of Colombia's cities.

Many miles through one of the richest sections of country are traversed after leaving Barranquilla. The delta lands are especially fertile, always watered, and maintain immense herds of cattle luxuriating in the nutritious grass growing on its soil. These cattle are a source of great wealth, and are largely exported to Cuba. The lands are also cultivated to supply the cities and towns with vegetables, fruits, and sugar. The growth, if anything can be so, is too rank, requiring more attention in its repression than in its nourishment.

The first six towns passed are small, but represent, back of them, a vast territory of available land reaching back to the Sierra Nevada of Santa Martha, with their mountains of mineral wealth.

Cerro de San Antonio.—Cerro de San Antonio lies at the mouth of a creek connecting the Magdalena with the lakes of Santa Martha, from which lakes a railroad is being built to the sea-port of Santa Martha. When the railroad is completed it is proposed to widen and deepen the caño so that the river steamers can connect with the railroad, which will run thence to the ocean steamers. The total length of this line will be about 75 miles.

Calamar.—Calamar lies at the mouth of an artificial canal connecting the natural waterways, lakes, &c., with the bay of Carthagena. There have been great efforts made to open this way permanently, in order to place the ocean and river steamers side by side, and thus avoid intermediate transshipments of the cargo. The four steamers belonging to the Dique Company have gained the greatest success of any, but great outlays of money will yet be required before this 90 miles route will be fully established. Even then large yearly expenses for maintenance will be required. The Government have dredges constantly at work on this route. The outlying country furnishes hard woods, ties, and dye-woods. The delta is now left behind, and a few towns of historic interest passed.

Zambrano.—This was formerly a place of importance as the port of a district called the Carmen, situated about 30 miles inland. This district raised large quantities of tobacco, but, owing to want of cultivation and consequent deterioration of the plants, the present trade is small and purely local.

Mompox and Magangué.—The next place presents a curious phenomenon; the Cauca River here enters the Magdalena, and, owing to some natural causes, becomes the main river as far as Guamal; there the Lobo becomes the navigable stream as far as Banco, where the Magdalena again resumes its course. Thus from Tacaloa to Banco the steamers leave the main river and follow the branches. This change in the river has materially injured the city of Mompox, one of the wealthiest, finest, and most cultured cities of this section. The trade has gone to Mag-

angué, where, three times a year, viz, in February, June, and September, the merchants from all parts of the country assemble to sell their wares in exchange for hides, cocoa, tobacco, woods, cattle, horses, or any other marketable article. Formerly the sales at one of these fairs were enormous, and large credits given, but owing to rapid and frequent communication with foreign places this trade is diminishing. In this section of the country there are large deposits of clay from which all classes of pottery are made, and efforts are being made to establish a porcelain and china manufactory. The country back of Magangué, known as the Sabanas of Corozal, is eminently a grazing country. The finest stock is raised in these plains.

Banco.—This is an ancient town, built by the Spaniards, at the mouth of the river Cesar. It is built on a high eminence, and commands the Magdalena and all its upper tributaries, and thus becomes a point of strategical importance; and, upon any intimation of public disturbance, is immediately occupied by troops, as nothing can pass up or down the river without coming under the guns of those holding the position. It has been proposed to close the Lobo, below Banco, to such an extent that the waters will resume their course down the main river, and thus give to Mompox her trade again. Below Banco there is a ledge of rocks, cropping out in some places and hidden below the water in others. These make it dangerous for night steamboating, but with daylight it is easy to find the proper channel. It is proposed to place small steamers on the Rio Cesar.

La Gloria and Puerto Nacional.—These are ports for the southern part of the department of Ocaña, and receive the produce of the various districts around the city of Ocaña.

Bodega Central.—This is the deposit for the goods entering and leaving the State of Santander by the river Lebrija. This river is remarkable for its swiftness of current. It becomes navigable for canoes at a place called Botitas, about 40 miles north of Bucaramanga, capital of the department of Soto, State of Santander. A small steamer has been put on the river between Bodega Central and the lower part of the Lebrija. This has drawn a great amount of trade, and business has increased to such an extent that the firm are building two new steamers to accommodate the traffic.

Paturia.—This is another port for Santander, and lies at the mouth of a caño. This caño was improved and a large amount of money expended in making a permanent way between Bucaramanga and the river. Trade refused to follow this route, and the investment is a total loss.

Puerto Wilches.—This place, named in honor of the ex-president of the State of Santander, attains its importance by being the terminus of a proposed railroad to connect Bucaramanga with the river. The site was selected because it is the only place favorably situated, where the mainland skirts the channel of the river, and at the same time affords a good inland route for the track. This railroad has received aid from both the State and general Governments, but only about 5 miles of it have been constructed. A new contract has been made whereby it is hoped to complete the work. This port also attains a national importance from the fact that it may become the terminus of a grand railway scheme to connect Bogota, the capital of Colombia, with the lower river. Consequently it may become one of the most important places on the river.

Bodegas de Sogamoso and Bohórquez.—These are near the mouths of

the rivers of the same names. These ports receive their business from the State of Santander, or that part of it lying adjacent to the waters of these streams, and which seeks this route as the most favorable outlet.

Barranca Bermeja.—This place, like Paturia, is a port for Ocaña, where a large outlay has been made to give an easy outlet to the produce of the country, but which has failed. The route is never traveled now, owing to the savages of Opon, who infest the line and render life insecure. Even the Government has abandoned this mail-route, as one carrier after another failed to make connections, being killed by the Indians. All these ports from La Gloria on the north to Barranca Bermeja on the south receive their importance from being the deposits for the high, fertile table-lands of Santander, of which Socorro is the capital and Bucaramanga one of the principal towns. The elevation of these lands permits of the raising of wheat, corn, and potatoes, as well as of an excellent quality of coffee. The mountains abound in cinchona, the gathering of which was developed into a very large business; but as the price of the sulphate of quinine has decreased, the business of gathering the bark has come to a standstill throughout the country, to the detriment of all business. The transportation question is a serious one, and until some one of the railroads reaches these table-lands no material progress will be made. Manufactories for a coarse cloth made from the fiber of teres, mills, and other improvements are found in this district. Unworked mines of great wealth are known in this section.

Carare.—This place is situated at the mouth of the Carare River, which is the outlet for the ivory-nuts, woods, and bark of the back-lying country. From here to Caracoli the east bank of the river is comparatively abandoned, while the west bank of the river becomes of importance to the steamers, owing to the shifting of the trade from the table-lands of Ocaña to those of Antioquia and the valley of the Cauca. The mountain barriers inclosing the productive lands are not so formidable in the Ocaña as in the Antioquia district; consequently more produce is sent from the former than from the latter at the present time; but when the railroads proposed are completed this will undoubtedly be reversed.

Puerto Berrio.—This town is situated on a bold bluff, somewhat isolated from the mainland. It has become of importance from being selected as the river terminus of the Antioquia Railroad, the other being at Medellin, the capital of the State of Antioquia. It is proposed in time to extend the road to the Cauca River, where it will join the Cauca Railroad, which is being built to the Pacific Ocean, at the port of Buenaventura. The Antioquia Railroad was begun about twenty years ago, but work was not seriously commenced until about ten years ago. The total length of the proposed line is 111 miles, 24 of which are finished. At this rate few of us will see its completion.

Medellin is described as a beautiful city. It is undoubtedly one of the richest in the Republic, as it is the center of the most productive mining sections in the country. Gold, silver, and coal abound. The shipments of the two metals amount to over $200,000 monthly. Only the very best grade of ore can stand the transportation charges of about one hundred dollars a ton; therefore large quantities of low-grade ores are thrown aside, waiting for cheaper transportation.

Angostura.—Here the river is closely confined between two bold banks, and when there are freshets the current sometimes becomes so swift that many steamboats have great difficulty in passing through the narrows against it.

Islitas and Nare.—These may be considered as one port, the former being about 10 miles up the Nare River and the latter at its mouth. The country between the two becomes inundated with a high river. To avoid this the former place was located inland, above the freshet line. When the river is low the steamers only go to Nare. These ports are the entrepôts for the trade to and from Medellin. All the other ports from here to No. 62 have no importance, unless the steamboat requires wood, when they become very important.

La Dorado.—This is the proposed terminus of the railroad now being constructed along the west bank of the river. When completed, steamboats will stop at this place, and thus avoid the series of dangerous rapids between the above-mentioned place and Caracoli. Sometimes boats are detained for weeks because there is not sufficient water in these passes. Vuelta-Nueva, Guariuó, and Mesuno are especially hazardous. Generally the boats cannot pass these rapids without tying a line to chains provided along the shore and pulling with the steam-winch, in addition to the working of the wheel. Some go through with 225 pounds of steam. Each company now has small steamers as tenders to take the cargo of the larger ones from Conejo to Caracoli whenever necessary. The railroad is completed from La Noria to Las Yeguas, and is expected to be finished in the year 1885.

Caracoli.—This is the head of steam navigation on the Lower Magdalena River, and is the port of Honda. The running time between Barranquilla and Caracoli is about 96.42 hours up river, but double this time is consumed, because it is dangerous to run at nights. Sometimes steamboats are detained for weeks on a sand-bar. Some contend that the depth of water in this part of the river has decreased within the past ten years. The troubles of steamboat navigation would seem to bear this out. Formerly the large boats could generally pass the rapids; now they can rarely do so, and even those drawing only 2½ feet of water are stopped at times.

At this port all goods for the State of Tolima, for the city of Honda, and for the upper river are transshipped to the train, which runs twice a day. The goods intended for Bogotá or places in the State of Cundinamarca are taken across the river by the steamers to the Bodegas de Bogotá, where the main mule-road to the capital begins. The only means of crossing the swift flowing stream, except by an occasional steamer, is by a canoe ferry. All the business to and from the fertile plains of the rich and populous district around Bogotá, beyond the mighty Andes Mountains, must find its entrance and outlet here. About twelve years ago a railroad was commenced to connect these Bodegas with Bogotá. About 5 miles have been constructed, and the train was run over this section, but lack of funds has stopped all work on this enterprise About the rapids there is a canoe ferry, and a contract has been made to construct a bridge connecting the two shores, the bridge to admit of a railroad track and a walk for foot-passengers. This will supply a long-felt need.

Honda.—This is one of the most important towns on the river, and is situated at the junction of the Guali and Magdalena Rivers, in latitude 5°11′ north and longitude 74° 52′ 45″ west. All the natural conditions tend to center trade in this place, as it is the gateway to the upper and lower river, as well as Bogotá and the State of Tolima. Many interesting relics of the Spanish rule are to be seen here in dilapidated churches, forts, and private buildings. One very interesting work is still intact and of great use, viz, the bridge over a small stream, made out of small

stone, and yet so perfect in construction that ages have had no effect on it. Remains of their masonry show that the Spaniards had perfect knowledge of hydraulic cements and their uses. One of the bulwarks of this bridge was overthrown about three years ago by an earthquake. It broke in two, but no one has yet been able to separate the cemented mass. The main trade of Honda is forwarding, yet its own independent business is not insignificant.

La Noria.—This port ends navigation for the upper river steamers, barges, and canoes. It is in the southern confines of Honda. It is also the terminus of the railroad described from La Dorada. The steam service on the upper river is run under a subsidy from the General Government. It was intended to have this service extended to Neiva. One or two trips were made, but it was found useless to go beyond Girardot until several obstructions were taken from the river. From Girardot there is a Government road to Bogota, said by some to be better than the one from Honda, but as yellow fever sometimes appears at Girardot, but few care to go that way.

Ambalema.—This town is in the center of the finest tobacco-producing district within the Republic. Formerly the tobacco was considered equal to Havana, but it has deteriorated. This section not only supplies the main parts of the country with cigars and tobacco, but exports largely.

Girardot.—This is the terminus of the steamboat service, and also of a proposed railroad to Bogota. Owing to the fact that the first section of the road is over a plain, the work is complete, and the trains are running. The difficult portion is yet to be built. The Government are now perfecting contracts to carry the enterprise through. It is the purpose of the founder of these enterprises to connect Girardot with Honda and Puerto Berrio by rail. It is difficult to understand why the road was run 114¾ miles *up the river* to find a port to go *down the river*. It would have seemed more reasonable to have sought a way north by one of the rivers, Negro or Carare. This would have reduced instead of increasing the mileage. At this place there is a bridge crossing the river.

Neiva.—This is nominally the head of steam navigation, but a steamer seldom reaches here. The place is the center of a large trade.

MISCELLANEOUS.

The whole of the upper river is very difficult for steam navigation, owing to the many sharp bends, rapids, and counter-currents, which are encountered. The current varies from 4 to 6 miles an hour.

The Government are canalizing the river throughout its entire length, and are provided with a very thorough equipment. The expense is borne by the traffic in the river, a charge being made for every package shipped.

To describe the places supplied through the river ports would entail the writing of a description of the entire country.

AN OPENING FOR CAPITAL.

From the tables and report it is easy to determine what channels trade follows, and which furnishes the greatest facilities. There is one point, however, that tables will not show, or words describe, and that is the immense resources locked in the interior for the lack of cheap transportation. Could a bushel of wheat be shipped from Bogota to

the seaboard as cheaply as it is from Chicago to New York, the business of the country would be increased immensely. Here is a great business ready for capitalists. It would be impossible to consider this matter fully in this report, but there is no reason why this great waterway, the Magdalena River, should not bear on its surface a commerce equal to that of any river of its size. And when it does, Barranquilla will attain a position unrivaled in this country.

THOMAS M. DAWSON,
Consul.

UNITED STATES CONSULATE,
November 10, 1884.

TABLE No. 1.—*Descriptive chart of the Magdalena.*

Names of places.	Distance in miles from Barranquilla.	Hours employed by steamers going upstream.	Hours employed by steamers going downstream.	Number of cargas* shipped from each station down the river during 1883.	Number of cargas* shipped from each station up the river during 1883.	Remarks.
From Barranquilla to—						
Boca de Caño, north ...	3	.....	45. 57	.....	.....	
Boca de Ceniza, north .	15	.....	.....	.....	.....	Latitude 10° 59′ N.; longitude 74° 50′ N.; temperature 87°.22.
Salgar (by rail)	14	.....	.....	.....	.....	Latitude 10° 56 30″ N.; longitude 75° 0′ 30″ W.; temperature 85° 6′.
Sta. Martha (by ocean).	60	.....	.....	231. 50	657. 18	Latitude 11° 18′ N.; longitude 74° 15′ W.; temperature 82°.30.
Carthagena (by ocean).	90	.....	.....	142. 00	.....	Latitude 10° 25′ N.; longitude
Sitio Nuevo, south.....	21	2. 25	44. 59	1, 529. 50	.....	75° 29′ 45″ W.; temperature 86.
Remolino	26¼	3. 03	44. 41	1, 443. 00	108. 75	Latitude 10° 41′ N.; longitude 74° W.; temperature 87.8; altitude 33 feet.
Puerto Bolivar	28	3. 14	44. 26	.....	.....	
Mata de Cana.....	30	3. 28	44. 09	.....	700	
Salamina	48	5. 28	44. 01	699. 70	.....	
Piñon.....	54	6. 18	42. 49	270. 00	200	
Cerro de San Antonio .	60	7. 11	41. 32	.....	.....	
Calamar.....	66	8. 03	40. 42	117. 70	564. 75	
Buena Vista	76	9. 38	40. 10	1, 116. 15	139. 05	
Heredia	84	10. 48	39. 40	155. 00	220. 85	
Nerviti.....	90	11. 48	38. 58	929. 41	.....	
Tenerife	102	13. 02	38. 36	721. 42	189. 95	
Jesus del Rio	108	15. 48	37. 53	1, 406. 86	1, 184. 15	
Zambrano	114	15. 00	36. 08	2, 194. 61	680. 90	Altitude 85.20 feet.
Facamocho	138	18. 24	34. 31	999. 63	1. 00	Altitude 124.6 feet.
Boca Facaloa	142¼	19. 10	.....	.....	.....	
Mompox.....	.....	.....	.....	1, 977. 25	721. 70	Latitude 9° 14′ N.; longitude 74° 30′ W.; temperature 87; altitude 128 feet.
Tati	156	21. 30	33. 12	.....	.....	
Magangue.....	159	22. 01	33. 07	4, 429. 72	9, 865. 90	Altitude 180.4 feet.
Barboza	180	24. 56	32. 04	.....	.....	
Boca Guamal	198	27. 23	31. 62	15. 00	.....	
Pinillos.....	208	28. 45	31. 42	.....	108. 50	
Los Cerritos	225	31. 05	30. 44	.....	.....	
Barranca de Lobo.....	236	32. 38	29. 08	21. 50	11. 50	
Las Conchitas	244	34. 18	.....	.....	.....	
Banco.....	249	34. 23	28. 15	220. 00	100. 30	
Tamalameque	261	37. 03	26 52	388. 42	18. 80	
San Pedro	273	38. 47	25. 44	.....	.....	
Regidor.....	279	39. 28	25, 36	.....	.....	
La Gloria	282	40. 03	25. 28	3, 383. 55	500. 35	
Puerto Nacional.....	303	43. 26	23. 45	13, 626. 78	3, 647. 70	Latitude 8° 21′ N.; longitude 73° 57′ W.; temperature 90; altitude 222 feet.
Bodega Central	318	45. 46	21. 37	2, 4621. 49	8, 600. 48	
Badillo	339	48. 32	21. 14	.....	108. 35	Latitude 8° N.; longitude 74° 09′ W.; temperature 90°; altitude 227 feet.
Bijagual	345	50. 05	19. 41	.....	.....	
Boca del Rosario	354	51. 36	19. 15	.....	.....	
Paturia	368	53. 23	18. 35	2, 340. 49	194. 15	
San Pablo.....	375	55. 08	17. 54	75. 00	.....	Latitude 7° 32′ N.; longitude 74° 08′ W.; temperature 86°; altitude 241.8 feet.
Cantagallo.....	381	55. 38	17. 07	.....	.....	
Corredor	387	56. 08	16. 59	928. 70	6. 50	
Puerto Wilches.....	393	56. 38	16. 51	90. 13	299. 00	
Bodega Sogamoso.....	.....	57. 09	16. 42	8, 259. 55	748. 66	
Bodega Bohorquez	.....	57. 48	16. 34	3, 048. 45	81. 50	
Barranca Bermeja	402	60. 17	15. 21	1, 822. 40	481. 05	Altitude 301.76 feet.

* Eight cargas equal to one ton.

TABLE No. 1.—*Descriptive chart of Magdalena*—Continued.

Names of places.	Distance in miles from Barranquilla.	Hours employed by steamers going up stream.	Hours employed by steamers going down stream.	Number of cargas shipped from each station down the river during 1883.	Number of cargas shipped from each station up the river during 1883.	Remarks.
From Barranquilla to—						
Opon	408	61.32	14.44	.....	.....	
Peñas Blancas	417	62.56	13.12	.....	.....	
Carare	429	65.20	12.53	1,390.25	10.95	Latitude 6° 47′ N.; longitude 74° 13′ W.; altitude 406.7 feet.
Barbacoas	437	66.48	.....	.....	.....	
Salida Rio Nuevo	440	67.11	.....	.....	.....	
Entrada Rio Nuevo	457	70.01	.....	.....	.....	
Murillo	464½	71.09	.....	.....	.....	Latitude 6° 42′ N.; longitude 74° 18′ W.; temperature 88.7°; altitude 410 feet.
Puerto Berrio	471	72.10	9.26	111.60	1,525.24	Latitude 6° 32′ N.; longitude 74° 28′ W.; temperature 86°.; altitude 418.
Garrapata	478½	74.25	8.53	.....	.....	Latitude 6° 25′ N.; longitude 74° 29′ W.; temperature 86.2°; altitude 420 feet.
Callejas	492	76.29	8.01	.....	.....	Latitude 6° 13′ N.; longitude 74° 39′ W.; temperature 86°. 2; altitude 426 feet.
Angostura	498	78.00	.....	.....	.....	Latitude 6° 10′ N.; longitude 74° 43′ W.; temperature 80°. 2; altitude 429.6 feet.
Nare	502½	78.35	7.12	3,533.01	1,135.62	
Islitas	.....	.....	.....	92.28	13,012.31	
Mula	508½	.....	.....	.....	.....	
Puerto Viejo	514½	.....	.....	5.50	.....	
Velasquez	523½	.....	.....	.....	.....	
Buena Vista	535½	85.42	5.21	807.70	.....	Latitude 5° 40′ N.; longitude 74° 35′ W.; temperature 77°. 9; altitude 441 feet.
Fierro	546	87.13	3.33	.....	.....	
Conchal	550½	87.46	3.18	.....	.....	
Guarumo	556½	88.26	2.58	2,522.42	.....	Latitude 5° 30′ N.; longitude 74° 50′ W.; temperature 81°. 6; altitude 581.2 feet.
Perrera	562½	89.28	.....	1,190.71	.....	
La Dorado	568½	90.12	2.13	.....	.....	
Conejo	576	91.18	1.45	.....	.....	Latitude 5° 25′ N.; longitude 74° 47′ W.; altitude 607 feet.
Peñas Muertas	581½	92.11	.....	.....	.....	
La Garcera	583½	93.01	.....	.....	.....	
Yeguas	588	93.31	.....	.....	.....	
Vueta Nueva	591	94.07	.....	.....	.....	
Guarinó	594	95.27	.....	.....	.....	
Mesuno	595½	96.12	.....	.....	.....	
Caracoli	600	96.42	.....	51,215.41	58,904.44	Latitude 5° 11′ N.; longitude 74° 32′ 45″ W.; temperature 81°. 36; altitude 656 feet.
Honda	603	.....	.....	.....	.....	Latitude 5° 11′ N.; longitude 74° 52′ 45″ W.; temperature 82°. 4; altitude 792 feet.
La Noria	609	.....	.....	.....	.....	
Vieja Grande	612	.....	.....	.....	.....	
Sabandinga	618	.....	.....	.....	.....	
Chaguani	627	.....	.....	.....	.....	
Potosi	630	.....	.....	.....	.....	
Lagunilla	639	.....	.....	.....	.....	
Graco	640½	.....	.....	.....	.....	
Beltran	643½	.....	.....	.....	.....	
Ambalema	646½	.....	.....	.....	.....	Altitude 774 feet.
Colombaima	651½	.....	.....	.....	.....	
Paquilo	661½	.....	.....	.....	.....	
Jaramillo	663½	.....	.....	.....	.....	
Guacamaya	669½	.....	.....	.....	.....	
Rio Opia	683½	.....	.....	.....	.....	

TABLE No. 1.—*Descriptive chart of the Magdalena*—Continued.

Names of places.	Distance in miles from Barranquilla.	Hours employed by steamers going up stream.	Hours employed by steamers going down stream.	Number of cargas shipped from each station down the river during 1883.	Number of cargas shipped from each station up the river during 1883.	Remarks.
From Barranquilla to—						
Guataquisto	690¼	.....	.....	.....	.....	Altitude 784 feet.
Vega de los Padres	698¼	.....	.....	.....	.....	
Nariño	699¾	.....	.....	.....	.....	
Bizcochuelo	704½	.....	.....	.....	.....	
Gallinazo	708	.....	.....	.....	.....	
Monos	708¾	.....	.....	.....	.....	
Laderas de Flándes	714¾	.....	.....	.....	.....	
Girardot	717¾	.....	.....	.....	.....	
Peñalisa	722¼	.....	.....	.....	.....	
Boca Sunga	725½	.....	.....	.....	.....	
Guayabal	729¾	.....	.....	.....	.....	
La Chamba	740¼	.....	.....	.....	.....	
La Granja	744¾	.....	.....	.....	.....	
Chirilo	747¾	.....	.....	.....	.....	Latitude 3° 10′ N.; longitude 75° W.; temperature 74°. 5; altitude 1,010 feet.
Boca de Chengue	750¾	.....	.....	.....	.....	
Purificacion	753¾	.....	.....	.....	.....	Altitude 1,020 feet.
Salitre	765¾	.....	.....	.....	.....	
Natagaima	770¾	.....	.....	.....	.....	Latitude 3° 25′ N.; longitude 75° 15′ W.
Boca de los Angeles	773¾	.....	.....	.....	.....	
La Palura	794½	.....	.....	.....	.....	
Barandilla	797½	.....	.....	.....	.....	
Rio Cabrera	800¼	.....	.....	.....	.....	
Las Mamas	806½	.....	.....	.....	.....	
San Borja	812½	.....	.....	.....	.....	
Sinai	813¼	.....	.....	.....	.....	
Piedra Luitado	813¾	.....	.....	.....	.....	
Aipe	827¼	.....	.....	.....	.....	Latitude 3° 23′ N.; longitude 75° 30′ W.
Neiva	830	.....	.....	.....	.....	Latitude 3° 23′ N.; longitude 75° 30′ W.; temperature 77°; altitude 1,702 feet.
Dividal	834¾	.....	.....	.....	.....	
Bateas	827¾	.....	.....	.....	.....	

TABLE No. 2.—*Steamboat traffic on the Magdalena.*

Name of company owning or operating the steamboats.	Name of vessels.	Date of entering service.	Carrying capacity, allowing 8 cargas per ton.	Number of trips made.	Number of passengers carried during 1883.			Number of cargas moved during 1883.		
					Up.	Down.	Grand total.	Up river.	Down river.	Grand total.
	STEAMBOATS.		*Tons.*							
United Magdalena Steam Navigation Company.	Antioquia	Nov., 1857	225	2	13	21	.....	1,117.10	1,163.40	.....
	Confianza	Oct., 1866	150	8	26	36	.....	1,480.30	2,836.30	.....
	Francisco Montoya	Aug., 1879	112.50	25	350	243	.....	10,610.82	8,622.61	.....
	Victoria	Sept., 1880	187.50	24	150	180	.....	12,415.85	12,616.72	.....
	Roberts Calixto	July, 1881	52.50	12	31	114	.....	918.88	1,445.90	.....
	Cometa	Dec., 1882	93.87	22	142	185	.....	7,274.38	6,730.90	.....
	Total	.....	.....	.....	712	779	1,491	33,817.33	33,415.83	67,223.16
International Company	Santander	June, 1871	125	33	197	440	.....	8,551.93	15,498.97	.....
	Libertador	Oct., 1881	287.50	84	499	799	.....	14,773.32	24,732.71	.....
	Mariscal Sucre	Jan., 1884	.....	.....	.....	.....	.....	.....	.....	.....
	Total	.....	.....	.....	696	1,239	1,935	23,325.25	40,221.68	63,551.93
German Company	Murillo	Oct., 1872	275	7	18	5	.....	4,170.48	3,624.80	.....
	Isabel	Oct., 1873	175	3	8	22	.....	1,536.06	1,869.51	.....
	Bismarck	Feb., 1879	287.50	13	49	28	.....	8,796.34	9,242.76	.....
	Anita	Jan., 1882	80.37	18	76	298	.....	5,704.81	4,479.87	.....
	Total	.....	.....	.....	151	353	504	20,207.69	19,216.94	39,424.63
Cisneroz Company	Stephenson Clarke	Dec., 1877	75	13	11	102	.....	2,002.45	1,741.73	.....
	General Frujillo	Aug., 1880	120	19	125	247	.....	6,312.51	6,791.95	.....
	Inés Clarke	Mar., 1881	126.27	20	90	138	.....	7,229.74	5,082.49	.....
	Folima	Sept., 1879	62.50	14	12	132	.....	2,659.77	1,844.63	.....
	Emilia Duran	Sept., 1882	79.50	.....	.....	.....	.....	.....	.....	.....
	Maria Emma	Feb., 1878	250	11	24	27	.....	5,291.24	6,404.75	.....
	Magdalena	Apr., 1883	.....	3	.....	.....	.....	.....	.....	.....
	Sixta Fulia	Aug., 1881	14.37	37	229	245	.....	372.15	237.00	.....
	Funza	Aug., 1881	Tug boat	5	.....	.....	.....	.....	410.70	.....
	Total	.....	.....	.....	491	891	1,382	23,867.86	22,513.25	46,381.11
Lopez and Navarro	Union	Oct., 1882	61.37	10	78	155	233	822.62	3,068.23	3,891.05
Minas	Francia	Aug., 1880	23.62	3	.....	.....	.....	50.85	.....	50.85

El Dique Company	Once Noviembre	Mar., 1881	75	8	12	63		842.90	493.91	
	Cartagena									
	Rafael Núñez									
	Sinn									
	Total						75			836.81
National Government	Cristobal Colon		Dredge							
	Camacho Roldan		Tug-boat							
	Yoro		Fender							
	BARGES.									
	Andresito			4				60.82		
	Caiman			1				23.00		
	Campano			1				27.50		
	Carmelita			1				8.00		
	Cándida			1				4.71		
	Carolina			1				9.00		
	Cristina Dolores			2				214.55	606.50	
	Cuatro Hermanos			1				160.30	2,289.90	
	Julio			2				106.00	780.42	
	Langosta			1				3.00		
	María			4				67.00		
	Marta			1				12.00		
	Pachita			1				2.50		
	Resbaloso			1				5.00		
	San Juan			1				10.50		
	Toro and Teton			4				84.35	300.00	
	Vélez			1				72.00		
	Washington			2				94.65	1,968.39	
	Buenavista			1					1,439.00	
	Neptuno			1					3,321.05	
	Barranquilla			1					1,542.00	
	Vénus			1					1,151.50	
	Minerva			1					3,659.42	
	P. Palacio R.			1					840.00	
	Martina de la Rosa			1					1,624.57	
	Total							964.98	19,522.75	20,487.73
	Grand total									241,857.27

TABLE No. 3.—*Recapitulation of steamboat traffic on the Magdalena.*

Cargas moved during 1882	251,649.96
Cargas moved during 1883	241,857.27
Decrease	9,792.69
Passengers carried during 1882	5,635
Passengers carried during 1883	5,620
Decrease	15
Cargas moved during the first six months of 1883	107,080.61
Cargas moved during the first six months of 1884	104,330.12
Decrease	2,750.49
Passengers carried during the first six months of 1883	2,261
Passengers carried during the first six months of 1884	2,509
Increase	248

TABLE No. 4.—*OCEAN STEAMERS AT SABANILLA.*

[Printed inclosure in Consul Dawson's report.]

The arrivals and departures of ocean steamers in the port of Sabanilla are as follows:

HAMBURG-AMERICAN—GERMAN.

[First entered Sabanilla May 2, 1871.]

A steamer of this line leaves Hamburg the 7th of each month, touching Havre, Saint Thomas, La Guayra, Puerto Cabello, and Colon, arriving in Sabanilla the 10th of the following month. Leaves Sabanilla on the 12th of same for Hamburg, touching Curazao, Puerto, Cabello, La Guayra, Ponce, Mayaguez, Saint Thomas, and Havre.

A steamer of this line leaves Hamburg the 21st of each month, touching Havre, Saint Thomas, Ponce, La Guayra, Puerto Cabello, Curazao, and Colon, arriving in Sabanilla the 27th of the following month. Leaves Sabanilla the 29th of same for Hamburg, touching Curazao, Puerto Cabello, La Guayra, Puerto Plata, Saint Thomas, and Havre.

WEST INDIA AND PACIFIC—ENGLISH.

[First entered Sabanilla June 14, 1871.]

A steamer of this line leaves Liverpool the 5th of each month, touching Barbadoes, Trinidad, La Guayra, Puerto Cabello, and Curazao, arriving in Sabanilla the 1st of the month following. Leaves Sabanilla the 2d of same for Liverpool, touching Carthagena, and Colon.

A steamer of this line leaves Liverpool the 25th of each month, touching Barbadoes, La Guayra, Puerto Cabello, Curazao, and Santa Martha, arriving in Sabanilla the 20th of the month following. Leaves Sabanilla the 21st of same for Liverpool, touching Carthagena, Colon, and eventually New Orleans.

ROYAL MAIL—ENGLISH.

[First entered Sabanilla September 27, 1871.]

A steamer of this line leaves Southampton the 17th of each month, touching Barbadoes, Trinidad, Carúpano, La Guayra, Puerto Cabello, and Curazao, arriving in Sabanilla the 11th of the following month. Leaves Sabanilla on the 12th of same for Colon, touching Carthagena. Returns to Sabanilla the 20th, touching Carthagena, and sails for Bremen the 23d, touching Trinidad, Havre, and London.

A steamer of this line leaves Southampton the 2d of each month, touching Saint Thomas, Puerto Principe, Jamaica, Colon, and Carthagena, arriving in Sabanilla the 26th of the month. Leaves Sabanilla the 2d of month following for Southampton, touching Carthagena, Colon, Jamaica, Puerto Principe, Saint Thomas and Cherbourg.

GENERAL TRANSATLANTIC—FRENCH.

[First entered Sabanilla June 27, 1872.]

A steamer of this line leaves Havre the 21st of each month, touching Bordeaux, Santander, Pointe à Pitre, Basse Terre, St. Pierre, Fort de France, Carúpano, La Guayra, and Puerto Cabello, arriving in Sabanilla the 18th of the following month. Leaves Sabanilla the same day for Colon. Returns to Sabanilla the 24th, and sails for Havre same day, touching Puerto Cabello, La Guayra, Carupano, Fort de France, St. Pierre, Basse Terre, Pointe à Pitre, Santander, and Bordeaux.

A steamer of this line leaves Saint Nazaire the 6th of each month, touching Pointe à Pitre, Basse Terre, St. Pierre, Fort de France, La Guayra, and Puerto Cabello, arriving in Sabanilla the 26th of the month. Leaves Sabanilla the same day for Colon via Carthagena. Returns to Sabanilla via Carthagena the 4th, and sails for St. Nazaire same day, touching Puerto Cabello, La Guayra, Fort de France, St. Pierre, Basse Terre, Pointe a Pitre.

ATLAS—ENGLISH.

[First entered Sabanilla September 10, 1872.]

A steamer of this line leaves New York every fortnight on irregular dates, touching Carthagena, and arriving in Sabanilla after a voyage of about two weeks. Remains in port about six days, and sails for New York, touching Carthagena and Colon. Occasionally proceeds to Santa Martha.

HARRISON—ENGLISH.

[First entered Sabanilla June, 1875.]

A steamer of this line leaves Liverpool every third Saturday of each month, touching Barbadoes, Trinidad, La Guayra, Puerto Cabello, and Curazao, arriving in Sabanilla every third Monday. Leaves Sabanilla same, for Liverpool, touching Carthagena, Colon, and New Orleans.

TRANSATLANTIC—SPANISH.

[First entered Sabanilla January 21, 1882.]

A steamer of this line leaves Havana the 13th of each month, touching Santiago de Cuba, arriving in Sabanilla the 21st of the month. Leaves Sabanilla on the 22d of same for Colon, touching Carthagena. Returns to Sabanilla the 1st of month following, touching Carthagena, and sails for Havana the 1st, touching Santiago de Cuba.

TRADE AND COMMERCE OF PALESTINE.

REPORT BY CONSUL MERRILL, OF JERUSALEM.

I have the honor to present the following report upon the business and commerce of Palestine for the year ending September 30, 1884:

After three years of interruption of the regular course of the business and commerce of Palestine very little can be said of its prosperity. Two years ago we suffered from the war in Egypt; last year from the effects of the cholera there, and this year the cholera in Europe has practically blockaded our main sea-port and cut us off from any direct communication with the outside world.

There is no cholera in Egypt, nor has there been any there since last year, nevertheless all steamers coming from Egypt are subjected to five days' quarantine at Beirût. They are not allowed to touch at Jaffa, since it does not possess a quarantine station. All steamers arriving at Egyptian ports from Europe pass their regular time in quarantine before coming to the Syrian coast, consequently these additional five days of quarantine at Beirût are as unnecessary as they are unjust. It is, however, one of the many ways to hinder foreign travel and traffic, and to impose hardship and loss upon the people. Were not the capacity of these people to endure suffering almost unlimited their condi-

tion would be worse than wretched. The good crops of the past year have saved the land from famine, but that under the circumstances any business should be done or any taxes collected is a matter of wonder.

REVENUE.

In spite of the adverse conditions now hinted at, this consular district has to report for the last fiscal year, ending in March, 1884, an income from the military and land taxes of Turkish £45,000; from the tithes and sheep taxes of T. £70,000; from the religious and endowment funds of T. £15,000, and from the Jaffa road of T. £1,700, making a total of T. £131,700, or about $585,000. This amount of money, raised as it is from an impoverished people and with no help from their Government, represents a burden which the inhabitants of civilized lands cannot realize or imagine. I do not intend to recount the hardships of these people, but a single example will illustrate the crushing manner in which they are burdened by taxes, as follows: In hundreds of cases the Government tax on a vineyard has been more than the proceeds of the sale of the entire crop. The farmer receives nothing for his time, labor, and other expenses, and he has even to add money obtained from other sources to the amount realized from the product of his vineyard in order to satisfy the demands of the Government.

POSSIBILITIES OF THE COUNTRY.

Under a Government that would interest itself in the welfare of its subjects and help them to develop the resources of the country, this ancient land might become one of the most prosperous on the globe. The natural conditions, such as climate, soil, water supply, &c., are all favorable to growth and prosperity. At present, however, a great deal of land lies idle, and that which is cultivated is made to yield, owing to defective methods, only about one-fourth or one-half of what it would otherwise produce.

EXPORTS AND IMPORTS.

The exports from Jaffa, according to the table herewith inclosed, amounted during the last year to $896,550, a falling off of 50 per cent. from the preceding year, while the imports, which amounted to $614,175, show a falling off of 15 per cent. In the list of imports "American goods," aside from petroleum, make but a paltry show, namely, $1,000, and these were brought by way of England. A glance at the table headed "Return of navigation at the port of Jaffa" will explain why there are no more American goods brought to this country. Austrian, French, English, and Russian steamers are the only ones that touch at Jaffa, consequently goods from these countries are found in the shops and stores of Palestine instead of goods from America. Could American goods be brought to this country in American ships there is no reason why a fair share of the trade of the country might not be in the hands of Americans.

DETERIORATION OF PETROLEUM.

In the single item of petroleum America has hitherto had the advantage, but even in this Russia is now beginning to crowd us very close. During the past year the oil sent to this country has been so bad that people are beginning to inquire if after all it was not Russian oil that

they were using.* Unless American manufacturers take more pains in the future than they have for two seasons past people will be only too glad to turn elsewhere for their petroleum supply. What I refer to now was a universal complaint during the past year. Some complaint was heard the year previous, but the past year it has been, as I have said, universal. A few minutes after the lamps were lighted the light would duck down and burn dimly. No amount of coaxing, trimming, or of fussing with the wicks would induce it to give a bright or even a natural light. Unless a better article is sent to this country America will deserve to lose its petroleum trade. I will not specify the names of firms sending oil here or names which appear on the cases, but I wish that this information could be made public for the benefit of all manufacturers concerned. Besides, I desire, on behalf of the large number of people who have complained to me of American petroleum and who have suffered from the inferior article that has been sent to Syria the past year, to have it known that I have communicated the facts of which they complain to the Government.

MANUFACTURE OF TILES.

As to business and trade in Palestine, I see many ways in which capital could be invested to advantage, provided the conditions on the part of the Government were all that could be desired. As matters are at present money is safer in other countries. But even now, if one chose to take the risks, I think that certain branches of manufacturing might be introduced to good advantage. For instance, most of the new houses that are now built—and last year permits were granted for one hundred new houses and for one hundred and fifty "repairs"—have tile roofs. These tiles are imported from France. But in Palestine there are extensive beds of the finest clay, and were a company formed to manufacture these tiles upon the ground a considerable business could be built up, since they are coming more and more into general use.

CANNING FRUIT.

Another interest that could be made very profitable here is that of canning fruit. Fruit grows here with almost no labor or expense, and while apples and pears do not do well, such fruits as apricots, quinces, peaches, plums, and some other kinds that are usually canned grow here abundantly and to perfection.

MAKING AND EXPORTING WINE.

Still another interest is that of making and exporting wine. A great deal is made and consumed in the country, while at present only a comparatively small amount is exported. The following details will show the cost of producing the wine. One *kantar* of grapes—that is, 600 pounds—will yield seventy *rottles* of wine, and one rottle of wine is equal to four bottles. Therefore one kantar of grapes will produce 280 bottles of wine. The kantar of grapes would cost a little less than four dollars, and the cost of making the wine would not exceed two dollars. Hence

* Referring to the report from the consular agent at Mytelene on the falsification of American petroleum, as published in the last number of these reports, it is not at all improbable that similar falsifications may have caused the complaints in Palestine.

280 bottles of wine would cost less than six dollars, or a fraction over two cents a bottle. This is on the scale where only two or three kantars are made at a time, but were wine made on an extensive scale, the cost per bottle would be still less.

A MARKET FOR AMERICAN LUMBER AND WOOD MANUFACTURES.

In connection with houses, I think that a large trade could be created at once by importing ready-made windows and doors. Were the effort made to introduce them, such doors and windows would come at once into demand throughout Syria and Palestine. At present doors and windows are all hand-made and of such lumber as can be bought here. The best lumber is hard, full of knots, coarse-grained, difficult to work, corresponding to our inferior qualities of hemlock. It is not fit to make doors and windows of; still it is the best that is brought to the country. The lumber found here is brought from Austria and some parts of European Turkey, and is not only inferior in quality, but very expensive. I do not know why a profitable business might not be done by importing lumber directly from America to Jaffa, Beirat, and Gaza.

During the past summer an attempt has been made to build a bridge over the Jordan opposite Jericho. The bridge is not completed, and is not likely to be. But I wish simply to call attention to the fact that a large part of the timber for the same was brought to Jaffa from Europe and transported to the Jordan by means of camels. The lumber-dealer who furnished it sent down in this way something like 250 camel-loads of lumber.

Furthermore, much might be done in time by importing houses already framed. Such houses would never displace entirely the stone houses of the country, but for many purposes they would be of great service, and hence would be in demand. Also, all kinds of household furniture might be shipped to this country, ready made, in pieces, and put together here.

Ice.—Were a company formed in Jerusalem for making ice by machinery they might soon establish an extensive and profitable business.

A MARKET FOR AMERICAN HARDWARE AND TOOLS.

Besides what I have enumerated, American hardware of all kinds, stoves, tools, cutlery, cooking utensils, also crockery and glassware, groceries, and cotton goods would, it appears to me, find a ready sale here, provided the cost of getting such goods to this market did not effectually prevent their being imported.

At present the almost universal demand is for cheap goods, utensils, furniture, &c., the people having never yet learned the fact that to pay a good price and thereby secure a good article is in the end the greatest economy.

FAILURE OF JEWISH COLONIES.

The consular agent at Jaffa calls attention to the partial failure of the various Jewish colonies near that place, and says that thus far experience proves that the time has not yet arrived for establishing such colonies in Palestine with any hope of success.

RAINFALL.

The rainfall in Jerusalem during the rainy season of 1883–'84 amounted to 31.900 inches, and the number of rainy days reached as high as 70.

EXPORTS TO THE UNITED STATES.

The following table will show the value of declared exports from the consular district of Palestine to the United States of America during the year ending September 30, 1884:

Exports of olive-wood work and miscellaneous goods.

Quarter ending December 31, 1883	$388 06
Quarter ending March 31, 1884	485 68
Quarter ending June 30, 1884	167 59
Quarter ending September 30, 1884	1,436 47
Total	2,477 84

SELAH MERRILL,
United States Consul.

UNITED STATES CONSULATE,
Jerusalem, October 21, 1884.

JAFFA.

Statement showing the imports and exports of Jaffa (port for Jerusalem) during the year ended September 30, 1884.

IMPORTS.

Description.	Quantity.	Value entered.	Amount of duties ad valorem.	Whence imported.
			Per cent.	
American goods		$1,000	8	Via England.
Barley ..... bushels	47,200	9,400	8	Cyprus.
Coal ..... tons	761	6,536	8	England, France.
Coffee ..... sacks	4,366	61,124	8	France, Arabia, Italy.
Drugs ..... packages	613	10,000	8	France, Austria, India.
Flour ..... sacks	895	5,360	8	Russia, Austria, France.
Hides		6,000	8	Arabia, India, Egypt.
Iron and steel ..... tons	150	8,000	8	England, France, Sweden.
Leather		15,500	8	Germany, France, Greece.
Manufactures of cotton, wool, silk . bales	2,395	80,220	8	England, France, Turkey, Austria, Germany.
Petroleum ..... cases	13,000	21,450	8	America, Russia.
Potatoes ..... sacks	*1,589	4,400	8	Turkey, France, Austria.
Rice ..... do	16,075	108,000	8	Egypt, Italy, India.
Salt ..... tons	970	19,055	8	Turkey, Tripolis.
Sugar ..... barrels	4,956	75,400	8	Austria, France, Egypt.
Tobacco ..... pounds	28,600	11,030	75	Turkey, France, Germany.
Tobacco (for the water-pipe) .... bales	1,678	20,100	75	Persia.
Wine, beer, liquors		20,000	8	Cyprus, France, Germany.
Wood and timber		46,600	8	Austria, Turkey.
Sundries		85,000	8	From all countries.
Total		614,175		

*At $1.65.

Statement showing the imports and exports of Jaffa, &c.—Continued.

EXPORTS.

Description.	Quantity.	Value, including costs and charges.	Whither exported.
Beans ..... tons..	305	$8,000	France, Malta, England.
Bones and rags ..... do...	321	11,000	England, Italy.
Coloquintida	.....	5,000	Austria, England, France.
Dari ..... tons..	3,825	91,800	France, England.
Eggs, fowls, sheep	.....	10,200	Egypt.
Guts, dry and salted	.....	3,800	Germany, Austria.
Hides	.....	4,000	Turkey, Egypt, France.
Honey and wax	.....	1,000	Egypt, France, Germany.
Jerusalem articles of olive wood, beads, crosses, &c, of mother-of-pearl.	.....	40,300	To all countries.
Lentils ..... tons..	85	1,870	France, England.
Lupines ..... do...	240	5,000	Egypt, Austria.
Mats	.....	5,000	Turkey, Egypt.
Olive-oil ..... tons..	1,400	213,000	France, Egypt, England.
Oranges, lemons, fruit	.....	170,600	Turkey, Europe.
Sesame seed ..... tons..	1,292	112,180	France, Italy, Egypt, Russia.
Soap ..... bales..	7,805	171,900	Egypt, Turkey.
Vine	.....	6,000	To all countries.
Wheat ..... tons..	270	9,700	Turkey, England, Italy.
Wool ..... pounds..	60,750	6,200	France, England, America.
Sundries	.....	20,000	To all countries.
Total		896,550	

Statement showing the navigation at the port of Jaffa for the year ending September 30, 1884

Flag.	From or to—	Entered.						Cleared.					
		Steamers.		Sailing-vessels.		Total.		Steamers.		Sailing-vessels.		Tota	
		No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Ton
Austrian	Egypt.....	77	81,428	2	911	79	82.339	77	81,428	2	911	79	82,339
English.....	England	31	18,931	.....	.....	31	18,931	31	18,931	.....	.....	31	18,931
French	Egypt.....	41	49,053	7	350	48	49,403	41	49,053	7	350	48	49,403
German	Germany.....	.....	.....	1	135	1	135	.....	.....	1	135	1	135
Greek	Turkey	.....	.....	7	1,127	7	1,127	.....	.....	7	1,127	7	1,127
Italian	Italy	.....	.....	6	973	6	973	.....	.....	6	973	6	973
Ottoman	Turkey	1	194	683	20,726	684	20,920	1	194	677	20,540	678	20,734
Persian.....	do	.....	.....	5	115	5	115	.....	.....	5	115	5	115
Russian	Russia	41	62,783	.....	.....	41	62,783	41	62,783	.....	.....	41	62,783
Aggregate.	.....	..	.....	..	.....	907	236,726	..	.....	..	.....	904	238,540

TRADE OF THE UNITED STATES WITH THE ARGENTINE REPUBLIC.

REPORT BY CONSUL BAKER, OF BUENOS AYRES.

In regard to the commerce between the United States and the Argentine Republic, it presents nothing in the returns for 1883 which can afford any encouragement. It makes no headway whatever against the overwhelming current which for all these years has been so set and confirmed in the direction of Europe. The figures, compared with the previous year, are as follows:

Trade.	1882.	1883.
Imports from the United States	$5,094,764	$4,933,056
Exports to the United States	2,956,583	3,510,574
Total	8,051,347	8,443,628

From which it appears that there was a decrease of $161,710 in the official value of the imports, and an increase of $553,991 in that of the exports, the total trade being $392,281 more than in 1882.

DETAILS OF OUR COMMERCE.

That the entire details of our trade with the Argentine Republic may be seen at a glance, in all its meager proportions, I have taken the pains to transcribe the following table of imports and exports for the last year, and commend it to the attention of our exporters and manufacturers:

IMPORTS FROM THE UNITED STATES, SUBJECT TO DUTY.

Articles.	Quantity.	Value.
Olives ..... kilograms	2,930	$440
Turpentine ..... liters	362,083	65,350
Alcoholic and other liquors ..... do	377,450	55,800
Alcohol, pure ..... do	452,973	62,349
Plows ..... number	23,005	195,682
Jewelry	.....	2,650
Tar ..... kilograms	10,836	343
Indigo ..... do	29	73
Fire-arms and munitions	.....	6,997
Rice ..... kilograms	27,855	5,197
Cornstarch	.....	1,554
Fancy articles	.....	1,689
Sugar, refined ..... kilograms	68,153	13,705
Varnish ..... liters	19,092	9,869
Buttons, various ..... gross	8,387	1,393
Blacking	.....	5,556
Pack thread ..... kilograms	2,005	2,130
Boots and shoes	.....	483
Stone-coal ..... kilograms	2,051,274	20,513
Canned meats	.....	5,057
Barley ..... kilograms	920	172
Beer ..... dozens	53	98
Copper and brass manufactures ..... kilograms	160	932
Carriages ..... number	38	6,385
Brushes	.....	5,345
Ribbons	.....	404
Fire-crackers	.....	18,458
Coke ..... kilograms	796,057	13,533
Candies and confectionery	.....	5,540
Glassware	.....	6,772
Cutlery	.....	2,415
Drugs and chemicals	.....	63,978
Spices and condiments	.....	7,143
Fruits, preserved	.....	131
Gutta-percha articles	.....	163
Starch ..... kilograms	461,824	53,959
Iron and steel, unworked ..... do	214,960	19,056
Wire ..... do	35,620	5,278
Needles ..... per M	8	71
Kitchen utensils	.....	32,080
Nails ..... kilograms	189,118	19,682
Iron hoops ..... do	7,320	320
Ornaments	.....	6,152
Tools	.....	9,215
Iron furniture	.....	4,020
Thread	.....	39,330
Thread ..... kilograms	370	259
Tin-ware	.....	5,789
Oil-cloth ..... meters	4,368	1,958
Printed pages	.....	8,505
Agricultural machinery	.....	114,788
Surgical instruments	.....	2,284
Musical instruments	.....	2,515
Cordage	.....	8,968
Toys ..... liters	.....	757
Kerosene	3,862,891	564,148
Lamps	.....	47,966
Canned vegetables	.....	326
Metallic (?)	.....	17,310
Duck ..... kilograms	279,629	125,557
Lumber:		
Walnut ..... square meters	23,416	2,003
Pine ..... do	3,518,341	1,653,197
Other kinds	.....	80,041

IMPORTS FROM THE UNITED STATES, SUBJECT TO DUTY—Continued.

Articles.	Quantity.	Value.
Furniture		$43,696
Wooden utensils		33,560
Pumps		6,449
Sewing-machines ..... number..	2,401	49,222
Lithographic presses ..... do....	6	755
Locomotives and engines		274,095
Patent medicines		44,355
Sirup ..... liters..	150	22
Playing cards		1,150
Works of art		390
Straw goods		80
Paper:		
Writing ..... kilograms..	909	461
Printing ..... do....	192	50
Wrapping ..... do....	350	144
Cigarette ..... do....	1,736	908
Sand ..... do....	434	286
Other		596
Canvas ..... kilograms..	3,686	2,018
Shovels, spades, and hoes		61,556
Perfumery		1,261
Dried fish		32,122
Twine		2,292
Furs		1,902
Powder ..... kilograms..	3,500	3,330
Slate for roofing ..... square meters..	5,455	2,006
Stones:		
Lithographic ..... number..	2	380
Grinding		5,110
Other		3,395
Pianos	15	3,207
Paints		4,001
Rosin ..... kilograms..	216,095	10,848
Clocks ..... number..	9,432	17,246
Watches		456
Scales ..... number..	961	11,778
Undershirts ..... dozens..	24	88
Drawers ..... do....	18	94
Ready-made clothing		40
Hats and caps		377
Tobacco:		
Leaf ..... kilograms..	221,904	49,529
Plug ..... do....	306,109	92,864
Cigars ..... do....	306	915
Cigarettes ..... per M..	240	1,251
Snuff ..... kilograms..	15	15
Saddles and harness		4,841
Cotton goods ..... kilograms..	153,944	100,041
Do ..... meters..	407,266	43,333
Cotton, articles of		3,204
Hempen goods ..... kilograms..	1,454	232
Do ..... meters..	1,865	562
Linen goods		224
Woolen goods ..... kilograms..	8,196	5,834
Do ..... meters..	4,386	1,470
Woolen, articles of		2,224
Mixed goods ..... kilograms..	965	724
Do ..... meters..	11,701	5,349
Other textiles ..... kilograms..	716	257
Hydraulic cement ..... do....	720,000	1,748
Printing ink ..... do....	3,840	978
Stationery		5,402
Wine in casks ..... liters..	15,464	1,843
Zinc ..... kilograms..	6,557	754
Unenumerated articles		104,124
Total		4,590,851

IMPORTS FROM THE UNITED STATES, FREE OF DUTY.

Articles.	Quantity.	Value.
Specifics for curing scab in sheep		$35,884
Scientific instruments		621
Machinery		13,327
Railway materials		274,385
Tramway materials		5,429
Other materials		1,887
Unenumerated articles		10,670
Total		342,203

EXPORTS TO THE UNITED STATES, SUBJECT TO DUTY.

Horns	kilograms	1,834	$275
Hair	do	543,652	244,643
Bones and bone-ash	do	2,648,436	52,966
Skins:			
Goat	do	44,712	277,209
Carpincho	number	18,160	18,160
Nutria	kilograms	399,085	319,266
Sheep	do	6,083	1,156
Other	do		18,497
Hides:			
Ox and cow, dry	number	396,309	1,405,199
Ox and cow, salted	do	15,200	83,600
Hide cuttings	kilograms	190,119	17,787
Wool	do	3,823,451	955,862
Ostrich feathers	do	24,678	74,034
Total			3,463,547

EXPORTS TO THE UNITED STATES, FREE OF DUTY.

Old iron	kilograms	40,000	$800
Flaxseed	do	610,295	30,515
Dried blood	do	276,580	8,297
Unenumerated articles			7,415
Total			47,027

While these tables appear quite insignificant when considered with reference to the entire bulk of the foreign commerce of the Argentine Republic, yet, when compared with the trade returns of this country with the United States for former years, it may at least be some satisfaction to know that, in spite of the unequal competition with which we have to contend, we are able even to hold our own in the River Plate.

The small increase in the value of the exports to the United States is partly accounted for in the increased quantities of wool which went forward to the mills of Massachusetts, thus overbalancing a decrease in the shipment of hides, as will be seen from the following:

Articles.	1882.	1883.
Wool	$257,713	$955,862
Hides	1,812,224	1,405,199
Total	2,069,937	2,361,061

A large increase in the shipment of nutria skins and horse-hair in 1883 quite makes up the balance of the increase.

WHAT WE ARE DOING.

In regard to imports from the United States, the best way to show what we are doing and what we are not doing is by comparison. I therefore give below the principal articles which made up our import trade with the Argentine Republic last year, compared with their values for the previous year:

Articles.	1882.	1883.
Turpentine	$29,012	$65,350
Alcohol and other liquors	68,348	55,800
Starch	83,303	53,959
Drugs	33,280	64,178
Agricultural implements, &c	528,046	157,248
Lamps and gas fixtures	46,200	47,966
Lumber of all kinds	2,019,216	1,741,238
Machinery	153,444	296,817
Furniture	176,847	77,258
Tobacco	120,339	144,574
Cotton goods	125,009	147,578
Hardware	141,623	171,501
Lard	26,619	23,597
Kerosene	362,139	564,148
Railway machinery	273,376	274,385
Hemp and other fabrics	129,958	128,588
Total	4,317,759	4,013,685

This shows a falling off in the articles mentioned of about $300,000. In regard to agricultural implements, the decrease was not occasioned by any dissatisfaction with our American manufactures, but the crops of 1882 were not a good yield, and quantities of machinery which were ordered previous to the harvest were held over for want of any demand. Since the tables of 1883 were made up the shipment of such machinery has once more taken a spurt, and there is a general preference for our implements of agriculture.

The same may be said in regard to our lumber trade. The demand for American pine was quite weak during 1883, with decreased receipts; but since then whole fleets of vessels have been chartered for lumber cargoes to the River Plate; and next year's figures will show a large increase in the shipments.

Our furniture of the cheaper varieties has always found a ready sale in the Argentine Republic; and I cannot account for the diminution of the imports, unless it be what I have heretofore suggested, that several manufactories of furniture of similar styles and make have been started in this city; and it may be that they are now dividing the trade with us.

There has been a great increase in the shipments of kerosene, a number of new firms having, during last year, entered the market with new brands; but the demand all through the interior is so steady that the trade will probably have still larger development.

The other articles which appear in the above list exhibit, but little fluctuation, with a uniform demand; but there are a number of articles not included, in which we show a decided falling off. Among these may be mentioned refined sugars, paints, groceries, ship chandlery, perfumery, glassware, paper, &c.

WHAT WE ARE NOT DOING.

In other lines of goods, and I could repeat with additions the list I gave in my last annual report, we continue to have scarcely any share whatever. I suppose the reason for this must lie in the fact that, with

the facilities of trade which Europe offers to this country, the close inter-communication by steam which exists, and the liberal credits which English, French, and German manufacturers can afford to give to Argentine dealers, it is impossible for us to compete with them for such supplies, in spite of the fact that our goods may be really better, and at the same prices preferred by the people of the River Plate. In this state of affairs, we shall have to abide our time, and wait until, in the fullness of our cmmercial development, we can afford to sustain a closer communication with Buenos Ayres, by means of regular lines of steamships. Until this shall be consummated, it is useless longer to discuss the methods by which our foreign commerce can be increased. In these days of steam and ocean cables time is the lever which moves cargoes; and unless we are able to put down in Buenos Ayres invoices of merchandise with equal dispatch with the nations of Europe, we need not expect to make many inroads upon their monopoly of the commerce of the River Plate. The days of sailing vessels, except for bulky or heavy articles and raw material, are quite passed, and those nations which are fully supplied with merchant steamships are the ones which must necessarily control the commerce of the seas. As well almost might we speak of canal-boats competing with railway trains as of sailing vessels competing with steamers. When it takes from sixty to eighty days for our sailing vessels to reach Buenos Ayres from New York, and only from twenty to twenty-five days for merchant steamers to reach the same port from Liverpool or Antwerp or Havre or Marsailles or Genoa, it is hardly necessary for us to wonder why the importers of the River Plate prefer, even were other things equal, to order their supplies from the other side of the waters. A glance at the tables of navigation of the Argentine Republic during the last year shows how unequally handicapped we are in our trade relations with this country. It appears that in 1883 just four steamers, and those under a foreign flag, reached these shores from the United States, while during the same time there were seventy-seven arrivals of steamers from Germany, thirty-two arrivals of steamers from Belgium, fourteen arrivals of steamers from Spain, one hundred and thirteen arrivals of steamers from France, seventy arrivals of steamers from Italy, and two hundred and twenty-two arrivals of steamers from Great Britain. Until the interest of our people or of our Government in securing a fair division of the foreign commerce of this country is such that they are willing to assist in establishing regular steam communication with Buenos Ayres, consular reports will have but little effect in diverting its trade to our shores.

In view, however, of the present unpromising state of the general business of the Argentine Republic, it may be a fortunate thing that our trade is not at present so extended or so extensive in this direction as we could otherwise wish. The importations with which England, France, and Germany continue to overstock all profitable trade are already so far beyond the legitimate wants of the country that it is hardly desirable for us to undertake to imitate their example. It is much better for us to go slow and await a favorable opportunity than, in the existing condition of business, to ship goods with which this market is already glutted and for which there is no present demand.

E. L. BAKER,
Consul.

UNITED STATES CONSULATE,
Buenos Ayres, September 30, 1884.

REVENUES AND FINANCIAL CONDITION OF THE ARGENTINE REPUBLIC.

REPORT BY CONSUL BAKER, OF BUENOS AYRES.

The revenues of the Argentine Republic, to meet the increasing demands of the Government, continue to increase year by year. The following figures show the receipts from all sources for the year 1883:

From duties on imports	$19,792,558
From duties on exports	3,584,312
Warehousing	491,527
Stamps and stamped paper	1,381,930
Licenses	601,583
Direct taxation	993,812
Post-office	546,384
Government telegraphs	223,354
Light-houses	78,855
Sanitary visits	25,785
National timber tax	13,814
Water-works tax	261,648
Judicial deposits	60,959
Receipts from Central Argentine Railway	102,816
Receipts from Northern Central Railway	1,170,893
Receipts from Andine Railway	417,663
Receipts from First Entre Rios Railway	9,168
Receipts of railway guarantees	137,479
Receipts from the penitentiary	13,462
Receipts from Riachuelo port and mole	194,715
Receipts from national bank	265,050
Sundries	384,590
Total	30,703,348

The following shows the annual revenues of the Government since 1870:

1870	$15,307,709	1877	$15,318,264
1871	13,104,920	1878	19,066,999
1872	18,708,363	1879	21,660,863
1873	20,965,585	1880	20,247,487
1874	17,077,817	1881	20,057,500
1875	17,779,720	1882	26,655,105
1876	14,036,424	1883	30,313,348

From which it will be seen that in fourteen years the revenues of the Argentine Republic have fully doubled in amount. The annual budget of the nation has been increasing in about the same proportion.

THE NATIONAL BUDGET.

The appropriations for the ordinary expenses of the Government for 1882 were $28,145,066. For the last year they were as follows:

Department of the interior	$6,380,501 03
Department of foreign relations	288,355 80
Department of finance	13,048,434 24
Department of justice, education, and religion	3,421,176 04
Department of war	5,701,827 64
Department of marine	3,284,453 82
Total	31,224,748 57

I may add that the budget for the present year amounts to $34,053,-484.35, and that the estimates now submitted to Congress for 1885 amount to $36,978,391.33. From this it is quite apparent that, unless the trade of the country keeps up at its present figures, there will be a deficit to tide over next year.

THE ARGENTINE DEBT.

In regard to the public debt of the Argentine Republic the official figures show a large increase over those of the previous year, as 1882 showed a large increase over those of 1881. The following table gives the total figures for the three years:

Amount.	1881.	1882.	1883.
Foreign debt	$57, 787, 632	$58, 987, 152	$80, 627, 581
Interior debt	24, 229, 659	43, 439, 475	25, 849, 730
Total	82, 017, 291	92, 426, 627	106, 477, 311

The last figures above show the condition of the debt on the 31st of December, 1883. Since then, however, an additional loan of $30,000,000 gold has been voted by the National Congress, and placed in England.* The object of this loan, and indeed the greater part of the increase of 1883, was for the building of railways, harbors, docks, and other works of internal improvement, and the development of the resources of the nation. A number of the railways already referred to are Government works. Very large sums of money have already been expended upon them, and it will still require immense outlays before some of them are completed. I have in previous reports adverted to the questionable policy of employing the resources of the nation in the construction of such public works. If it were impossible to find private parties who would undertake them on their own account, it would be a different matter. The Government might then be justified in going into such business for the development of the country; but this is not the case. There is hardly an enterprise demanded by the necessities of the people or the exigencies of trade for which there are not any number of private parties, with adequate private capital, ready and anxious to take the concession, with a proper guaranty. The result would be that the works would not only be built better and cheaper, but would be operated more economically.

*On the subject of this loan and of Argentine credit, the London Economist, just received here, says: "One-third of the Argentine public works loan for 30,000,000 hard dollars—the remaining two-thirds being promised for 1885 and 1886—is now brought forward by Messrs. J. S. Morgan & Co., at 84 per cent., and as that price is abated by interest accrued and by deferred installments to about 83, and Argentine credit stands high for a South American state, the issue will, doubtless, be subscribed. The money, too, is required for reproductive works, as Dr. Plaza is careful to point out in his budget opportunely to hand by this mail, while in another few years the onerous loans of 1868 and 1871 will have been entirely paid off, and an annual charge of not far short of £750,000 saved in consequence. These statements of Dr. Plaza are, it must be acknowledged, quite correct, and there is a good deal to be said for increasing railway communications in a country possessing 70,000,000 sheep, and 10,000,000 cattle, a large portion of them far up the country. Argentine railways already pay fairly well, their combined net receipts in 1882 amounting to to £621,655. Such borrowings British investors need not discourage as long as they are not pressed forward at such a rate as the Argentine Government proposed to do last year, when the $80,000,000 loan bill was brought forward, and happily rejected. As to the finance minister's present proposals to abolish the export duties in 1885, they are entirely to be commended, if he can satisfy himself that the exchequer can bear the strain."

THE FINANCIAL SITUATION.

The service of the public debt, of course, continues to be scrupulously attended; and the financial credit of the nation stands, as ever, deservedly high. The constantly increasing amount of gold, however, which must be remitted to Europe to pay the interest on the national debt, together with the large balance of trade against the Argentine Republic is, as we have already seen, producing a serious disarrangement of the business of the country. I would state that the interest on the public debt in 1865 was only $3,221,125; in 1875 it was $8,563,498; and for 1885 it will be $12,000,000 and over, nearly one half the estimated income of the Government.

The recent $30,000,000 loan, which is contracted to be paid in three instalments, will probably to some extent ease the exchange market, which is now ruling so severely against this country. This will probably afford a temporary relief to the financial situation; but it cannot be effectually relieved until there shall be an end of national borrowing and commercial overtrading.

Because I appear to question the wisdom of the present methods of trade in this country by which it is annually made such a debtor to Europe; or if I doubt the policy of the National Government embarking on borrowed capital in the general internal improvement business, it must not be supposed that I have changed the opinion I have so often expressed in my reports in regard to the grand destiny which is in store for the Argentine Republic. On this point my convictions are as strong to-day as they ever have been. The matters I have incidentally referred to may result in some present embarrassment, but they can have no permanent effect upon the progress of the country. Nature has done so much for it that now that it has felt the impulse of a better future, its growing industries cannot fail to carry it forward. With the continuance of the peaceful relations which it sustains towards other nations, and of the internal quiet and repose which are now doing so much for the development of its marvelous resources, there is no doubt that its advancement to a first rank among the nations of the world is fully assured. Its present measure of prosperity is but a foretaste of that which is in store for it.

E. L. BAKER,
Consul.

UNITED STATES CONSULATE,
Buenos Ayres, September 30, 1884.

FOREIGN COMMERCE OF THE ARGENTINE REPUBLIC.

REPORT BY CONSUL BAKER, OF BUENOS AYRES.

The foreign commerce of the Argentine Republic for 1883, according to the official returns, amounted to $140,643,804, against $121,634,984 in 1882, $113,644,199 in 1881, and $103,916,667 in 1880.

The official or customs valuation of the imports for the year 1883 was $80,435,828, against $61,246,044 in 1882, $55,705,927 in 1881, and $45,535,880 in 1880.

The official or customs valuation of the exports for the year 1883 was $60,207.976, against $60,388,939 in 1882, $57,938,272 in 1881, and $49,357,558 in 1880.

It will be seen that the imports of 1883 exceed those of 1882 by more than $19,000,000; that the exports of 1883 are less than those of 1882 by $180,963, and that the total commerce is $19,008,816 more in 1883 than it was in 1882.

The proportion of imports and exports subject to duty and free of duty will be seen from the following figures:

IMPORTS.

Subject to duty	$67,721,783
Free of duty	12,714,045

EXPORTS.

Subject to duty	51,592,824
Free of duty	8,615,152
Total	140,643,804

TRANSIT TRADE.

The transit commerce of the Argentine Republic for the year 1883 amounted to $19,770,533, against $17,626,514 in 1882. Of this the great proportion belonged to Bolivia, the entire transit trade with that country being $17,252,646 in 1883, against $14,658,624 in 1882.

Imports and exports at each custom-house.

Custom-house.	Imports.	Exports.	Total.
Ajo	$10,197	$696,432	$706,629
Alvear	11,024	5,967	16,991
Baradero	7,489	109,061	116,550
Bahia Blanca	746,502	4,137	750,639
Bella Vista	59,210	3,940	63,150
Buenos Ayres	66,072,322	40,710,386	106,782,708
Compana	144,160	239,341	383,501
Chuput	2,771	.....	2,771
Concepcion	170,706	108,043	278,749
Colon	275,071	752,727	1,027,798
Concordia	698,881	1,888,332	2,587,213
Corrientes	241,404	48,918	290,322
Diamente	8,311	.....	8,311
Empedrado	.....	59,964	59,964
Esquira	43,875	.....	43,875
Formosa	7,425	.....	7,425
Goya	137,301	19,534	156,835
Gualeguay	247,843	898,060	1,145,903
Gualeguay-chú	286,167	278,896	565,063
Helvecia	9,497	12,73[illegible]	22,229
Jujuy	58,128	161,419	219,547
La Paz	61,119	131,271	193,390
Mar del Plata	.....	.....	.....
Mendoza	39,341	1,265,577	1,304,918
Monte Caseros	43,299	24,127	67,426
Paraná	377,515	74,289	451,804
Paso de los Libres	42,862	28,781	71,643
Patagones	2,243	2,129	4,372
Rosario	9,769,867	6,497,257	16,267,124
Salta	148,027	110,587	258,614
Santa Fé	112,478	488,352	600,830
San Gerónimo	.....	.....	.....
San Juan	201,512	554,020	755,532
San Lorenzo	2,501	565,553	568,054
San Nicolas	292,149	3,187,918	3,480,067
San Pedro	13,731	1,000,942	1,014,673
San Tomé	11,769	29,734	41,503
Trinchera de San José	14,536	54,760	69,296
Victoria	61,604	.....	61,604
Zárate	1,991	194,790	196,781
Total	80,435,828	60,207,976	140,643,804

By an examination of these figures it will be seen that Buenos Ayres stands for 82.2 per cent. of the amount of imports; 67.6 per cent. of the amount of exports; and 75.9 per cent. of the total foreign commerce. Rosario, which is next highest, stands for 12.1 per cent. of the amount of imports; 10.8 per cent. of the amount of exports; and 11.6 per cent. of the total foreign commerce.

MOVEMENTS OF COMMERCE ACCORDING TO NATIONALITY.

The following table gives the distribution of the foreign commerce of the Argentine Republic among the different nations for the year 1883:

Country.	Imports.	Exports.	Total.
Africa	.....	$3,888	$3,888
Germany	$7,028,051	4,823,827	11,851,878
West Indies	109,175	1,143,745	1,252,920
Belgium	3,261,077	12,148,946	15,410,023
Bolivia	65,997	272,006	338,003
Brazil	2,182,720	1,710,436	3,893,156
Canada	29,860	.....	29,860
Chili	242,617	2,002,112	2,244,729
Spain	3,790,760	1,321,559	5,112,319
United States	4,933,054	3,510,574	8,443,628
France	15,418,997	21,041,495	36,460,492
Italy	3,480,321	1,651,834	5,132,155
Holland	549,461	43,556	593,017
Paraguay	1,314,892	172,623	1,487,515
Portugal	28,080	11,324	39,404
Great Britain	30,695,963	5,956,093	36,652,056
Sweden	12,009	.....	12,009
Uruguay	4,443,447	1,934,582	6,378,029
All other nations	2,849,347	2,459,376	5,308,723
Total	80,435,802	60,207,976	140,643,804

COMPARISONS OF 1882 AND 1883.

I have taken the trouble to compare these figures with those of 1882, and it appears that the importations to the Argentine Republic have increased from the following countries:

Germany	$2,263,429	France	$3,332,173
Belgium	392,818	Italy	563,944
Canada	29,860	Paraguay	173,734
Brazil	28,951	Great Britain	11,141,031
Chili	226,926	Sweden	12,000
Spain	884,605	Uruguay	1,550,536

And the importations have diminished from the following countries:

West Indies	$15,204	Holland	$455,983
Belgium	66,980	Portugal	8,660
United States	161,710	Other countries	601,688

The exports from the Argentine Republic for 1883, compared with those of the previous year, have increased from the following countries:

Germany	$19,866	United States	$554,092
West Indies	15,178	France	4,642,504
Chili	490,265	Paraguay	99,938
Spain	18.979		

During the same period they have decreased to the following countries:

South Africa	$153,972	Holland	$24,292
Belgium	2,215,896	Portugal	18,415
Bolivia	57,219	Great Br tain	1,669,423
Brazil	451,523	Uruguay	114,196
Italy	23,128	Other countries	963,957

The total trade, including imports and exports, has increased with the following countries:

South Africa	$153,972	France	$7,874,676
Germany	2,283,294	Italy	530,816
Canada	29,860	Paraguay	274,671
Spain	903,583	Great Britain	9,472,608
Chili	617,191	Sweden	12,009
United States	392,282	Uruguay	1,436,339

And the following countries show a decrease in the total amount of their trade with the Argentine Republic:

West Indies	$320,382	Brazil	$425,573
Belgium	1,823,078	Holland	480,276
Bolivia	124,199	Other countries	1,563,947

Great Britain continues to occupy the first place in the amount of its imports to the Argentine Republic, her imports last year standing for about three-eighths of the whole. France, as heretofore, holds the second place; then comes Germany, and then the United States, which before stood third. The proportion of imports from Great Britain was 38.3 per cent. in 1883, against 32 in 1882; of France, 19 per cent., against 20 per cent. in 1882; of Germany, 8.7 per cent., against the same figures in 1882; and of the United States, 6 per cent., against 8.3 in 1882.

In regard to the exports from the Argentine Republic, it will be seen that France continues to stand first, receiving last year more than one-fourth of the whole amount; Belgium occupies the second place, then Great Britain third, Germany fourth, and the United States fifth. The proportion of exports to France in 1883 was 35 per cent. of the whole; to Belgium it was 20 per cent.; to Great Britain, 10 per cent.; to Germany, 8 per cent.; and to the United States, 5.8 per cent.

In the total amount of commerce with the Argentine Republic Great Britain now occupies the first place, France coming close after; then comes Belgium, third; Germany, fourth; and the United States, fifth. Of the total commerce Great Britain last year enjoyed 26.2 per cent., having jumped from 22.3 per cent. in 1882; France enjoyed 26 per cent., having jumped from 23.5 per cent. in 1882; Belgium, 11 per cent.; Germany, 8.4 per cent.; and the United States, only 6 per cent.

DETAILS OF ARGENTINE COMMERCE.

From a general *résumé* of the exterior commerce of the Argentine Republic for 1883, issued from the government statistical office, I compile the following table, detailing each article of import and export, the amount of each, and the official value for dutiable purposes:

IMPORTS SUBJECT TO DUTY.

Articles.		Quantity.	Value.
Olive oil	kilograms	3,366,502	$1,067,098
Do	dozens	6,243	18,561
Olives	kilograms	338,518	47,357
Rice	do	10,600,121	1,111,389
Corn starch			18,577
Sugar:			
White	kilograms	3,066,310	461,939
Refined	do	20,065,524	3,875,476
Brown	do	883,996	96,261
Cacao	do	57,869	15,931
Coffee	do	1,746,612	502,568
Canned meats			132,220
Barley	kilograms	269,532	13,388
Cocoa	do	182,205	47,629
Chocolate	do	58,162	59,286
Confectionery and preserves			82,164
Spices			251,010
Canned fruits			345,113

IMPORTS SUBJECT TO DUTY—Continued.

Articles.	Quantity.	Value.
Starch ..... kilograms..	3,290,271	$319,736
Canned vegetables	.....	162,146
Lard ..... kilograms..	100,624	31,220
Sirup ..... do....	6,650	1,060
Dried fish	.....	549,169
Cheese ..... kilograms..	751,148	418,427
Tea ..... do....	370,029	365,692
Wheat ..... do....	229,672	9,532
Yerba maté ..... do....	15,409,105	1,915,162
Alcohol and liquors ..... liters..	7,546,170	1,091,618
Do ..... dozens..	211,620	959,505
Beer and ales ..... liters..	60,712	15,499
Do ..... dozens..	241,660	569,457
Wines:		
Champagne ..... do....	12,585	46,573
Port ..... do....	11,096	64,070
Sherry ..... do....	1,377	8,011
Other ..... do....	54,624	223,666
In casks ..... liters..	62,863,267	6,338,504
Vinegar ..... do....	118,560	10,732
Cigars ..... kilograms..	108,647	209,673
Cigarettes ..... thousands..	2,133	8,230
Tobacco:		
Plug ..... kilograms..	3,396,617	531,823
Leaf ..... do....	1,254,284	483,475
Snuff ..... do....	17,834	15,758
Oil-cloths ..... meters..	536	86
Mattings ..... do....	71,252	18,167
Drugget	.....	3,324
Shag ..... meters..	375,276	287,564
Sack-cloth ..... kilograms..	4,404,274	1,005,850
Pack-thread ..... do....	1,357,889	1,164,554
Baize ..... meters..	70,901	31,572
Cassimeres ..... do....	928,495	1,111,433
Ribbons, all kinds	.....	141,897
Cord	.....	15,671
Thread:		
In carats ..... kilograms..	67,190	24,096
Sewing	.....	292,044
Other kinds	.....	279,046
India rubber ..... meters..	83,948	34,639
Cordage	.....	186,451
Canvas ..... kilograms..	947,871	398,350
Duck ..... do....	51,191	27,975
Twine	.....	48,334
Alpagatos ..... dozens..	222,695	241,374
Cotton goods ..... kilograms..	6,377,531	5,537,625
Do ..... meters..	11,511,691	1,362,736
Cotton articles	.....	1,107,860
Hempen goods ..... kilograms..	33,837	9,296
Do ..... meters..	70,058	14,618
Hempen articles	.....	67,141
Linen goods ..... kilograms..	845	906
Do ..... meters..	1,717,090	333,448
Linen articles	.....	61,934
Woolen goods ..... kilograms..	90,077	215,276
Do ..... meters..	1,474,466	669,000
Woolen articles	.....	536,686
Mixed goods ..... kilograms..	103,241	292,358
Do ..... meters..	4,341,687	1,095,446
Mixed articles	.....	561,855
Silk goods ..... kilograms..	9,802	220,326
Do ..... meters..	28,203	22,744
Silk articles	.....	259,706
Other textiles	.....	58,448
Dressing-gowns ..... dozens..	2,116	14,429
Boots and shoes	.....	487,262
Shirts ..... dozens..	18,879	156,301
Chemises ..... do....	57,256	196,168
Drawers ..... do....	4,467	26,266
Collars and cuffs ..... do....	9,697	18,266
Hose ..... do....	493,497	498,355
Pocket handkerchiefs ..... do....	426,588	307,656
Towels ..... do....	47,957	79,897
Ready-made clothing	.....	377,678
Parasols and umbrellas	.....	48,336
Hats and caps	.....	634,156
Sulphuric acid ..... kilograms..	354,360	20,452
Alcohol for industrial purposes ..... liters..	1,712,986	248,510
Turpentine ..... do....	373,984	67,539
Tar ..... kilograms..	156,165	10,882
Varnish ..... liters..	70,890	40,746
Blacking	.....	16,066
Firecrackers	.....	73,014

IMPORTS SUBJECT TO DUTY—Continued.

Articles.	Quantity.	Value.
Matches ..... kilograms..	375, 390	$315, 425
Oils	.....	55, 294
Acids	.....	33, 233
Essences	.....	22, 670
Crude medicinal materials	.....	178, 821
Medicinal salts	.....	122, 732
Chemical products	.....	228, 100
Patent medicines	.....	300, 569
Perfumery	.....	192, 067
Powders ..... kilograms..	49, 441	30, 220
Paints	.....	264, 094
Pitch ..... kilograms..	269, 091	14, 315
Soda ..... do....	83, 940	5, 016
Printing inks ..... do....	28, 136	5, 558
Lumber:		
Pine ..... square meters..	4, 474, 397	2, 069, 657
Walnut ..... do....	160, 448	117, 568
Other	.....	237, 467
Wagons and carriages ..... number..	97	26, 419
Empty casks and barrels ..... do....	465	465
Musical instruments	.....	112, 133
Furniture	.....	221, 904
Pianos ..... number..	771	153, 731
Walking sticks	.....	14, 497
Various articles of wood	.....	186, 717
Paper:		
Writing ..... kilograms..	436, 208	131, 172
Drawing ..... do....	17, 182	9, 533
Printing ..... do....	1, 897, 903	370, 688
Wall ..... do....	131, 577	45, 707
Envelope ..... do....	1, 255, 129	267, 099
Binding ..... do....	17, 833	5, 712
Cigarette ..... do....	217, 107	128, 771
Sandpaper ..... do	504	1, 168
Playing cards ..... gross..	4, 949	51, 950
Papier maché	.....	53, 432
Various articles of paper	.....	41, 413
Printed sheets	.....	255, 194
Wire for fencing ..... kilograms..	19, 727, 108	1, 328, 484
Plows ..... number..	24, 172	215, 450
Arms and munitions	.....	181, 642
Cutlery	.....	347, 281
Iron and steel, unworked ..... kilograms..	22, 721, 857	1, 408, 362
Needles ..... thousands..	28, 524	20, 028
Wire ..... kilograms..	1, 735, 836	163, 396
Kitchen utensils	.....	280, 096
Chairs	.....	39, 581
Piping, iron	.....	97, 082
Nails ..... kilograms..	1, 484, 415	136, 578
Iron hoops ..... do....	2, 340, 501	133, 334
Iron ornaments	.....	260, 731
Tools	.....	101, 460
Iron furniture	.....	46, 913
Iron sleepers and columns	.....	104, 464
Iron instruments	.....	370, 224
Pumps	.....	14, 248
Sewing-machines ..... number..	14, 816	284, 560
Lithographic presses ..... do....	241	29, 588
Engines, &c	.....	817, 418
Shovels, spades, and hoes	.....	99, 236
Other iron implements	.....	817, 064
Jewelry	.....	505, 019
Copper and brass:		
Unworked ..... kilograms..	149, 404	35, 229
Manufactured	.....	77, 936
Zinc:		
Unworked ..... kilograms..	43, 893	18, 248
Manufactured	.....	10, 523
Instruments, scientific and other	.....	54, 347
Tin:		
Unworked ..... kilograms..	964, 315	95, 142
Manufactured	.....	64, 678
Metal articles	.....	151, 087
Lead:		
Unworked ..... kilograms..	526, 704	48, 494
Manufactured	.....	8, 504
Watches ..... number..	18, 397	142, 508
Clocks ..... do....	11, 466	33, 874
Clocks, unmounted	.....	1, 035
Scales ..... number..	3, 052	18, 777
Type	.....	30, 482
Copper:		
Unworked ..... kilograms..	654, 804	71, 339
Manufactured	.....	2, 155

IMPORTS SUBJECT TO DUTY.—Continued.

Articles.	Quantity.	Value.
Bricks ..... thousands..	7,772	$138,481
Glass bottles ..... dozens..	131,023	59,304
Glassware	.....	313,336
Lamps	.....	170,794
Earthenware	.....	348,499
Porcelain ware	.....	170,808
Roofing tiles ..... thousands..	2,975	109,976
Flooring tiles	.....	42,787
Glass, plain ..... meters..	225,192	114,945
Linseed oil ..... kilograms..	190,419	39,858
Indigo ..... do....	3,688	9,145
Sulphur ..... do....	23,243	1,650
Lime ..... do....	390,151	4,617
Corks ..... do....	114,259	49,590
Hops ..... do....	23,361	11,029
Salt ..... do....	22,437,336	149,296
Marble	.....	93,250
Slate ..... meters..	11,096	6,039
Precious stones, unset	.....	45,728
Lithographic stone ..... number..	382	6,373
Millstones	.....	13,684
Building stone	.....	105,955
Hydraulic cement ..... kilograms..	13,247,718	300,015
Gypsum	.....	2,934
Candles, stearine ..... kilograms..	748,004	219,184
Stone coal ..... do....	88,212,210	882,120
Coke ..... do....	1,687,543	28,688
Kerosene ..... liters..	5,078,844	666,682
Fancy articles and notions	.....	1,228,194
Buttons, all kinds ..... gross..	319,134	121,667
Brushes	.....	62,226
Leather articles	.....	28,737
Gutta-percha articles	.....	16,160
Toys	.....	82,545
Works of art	.....	33,656
Furs and robes	.....	500,744
Saddles and harness	.....	166,870
Stationery, &c	.....	246,990
Various unclassified articles	.....	2,573,443
Total	.....	67,721,783

IMPORTS FREE OF DUTY.

Materials:		
Railway	.....	$6,948,319
Gas	.....	120,819
Mining	.....	14,575
Public works	.....	321,056
Telegraphic	.....	19,163
Tramway	.....	47,111
Church	.....	4,354
Gold for coining ..... kilograms..	5,775,146	3,976,715
Fresh fish	.....	100
Construction stone	.....	181,819
Plants	.....	9,540
Various unclassified article	.....	63,420
Total	.....	12,714,045

EXPORTS SUBJECT TO DUTIES.

Animal oil ..... kilograms..	397,709	$58,314
Horns:		
Ox and cow ..... do....	928,473	139,273
Ram's ..... do....	1,500	30
Jerked beef ..... do....	21,544,200	2,814,411
Hair ..... do....	1,535,247	691,057
Bones and bone-ash ..... do....	25,798,365	508,474
Skins:		
Goat ..... do....	522,789	324,128
Kid ..... do....	308,171	616,342
Carpincho ..... number..	22,701	22,701
Nutria ..... kilograms..	491,217	392,970
Sheep ..... do....	26,564,619	5,035,886
Various	.....	65,960
Hides:		
Ox and cow, dry ..... number..	1,392,948	5,255,927
Ox and cow, salted ..... do....	517,270	2,890,443

EXPORTS SUBJECT TO DUTIES—Continued.

Articles.	Quantity.	Value.
Hides—Continued.		
Horse, dry ..... number..	38,211	$57,450
Horse, salted ..... do....	221,156	540,912
Hide cuttings ..... kilograms..	975,719	60,392
Wool ..... do....	118,403,668	29,600,918
Ostrich feathers ..... do....	42,375	127,125
Grease and tallow ..... do....	15,814,636	2,372,040
Unenumerated articles	.....	18,071
Total	.....	51,592,824

EXPORTS FREE OF DUTY.

Live animals:		
Asses ..... number..	11,675	$23,350
Horses ..... do..	4,555	45,550
Sheep ..... do....	38,217	53,503
Mules ..... do....	10,111	161,776
Cattle ..... do....	92,523	1,795,186
Bran ..... kilograms..	2,909,846	43,647
Peas ..... do....	240	7
Canary seed ..... do....	407,008	24,420
Borax ..... do....	980	200
Lime ..... do....	6,400	184
Charcoal ..... hectoliters..	45,557	45,557
Meats:		
Preserved	.....	12,753
Frozen	.....	11,412
Barley ..... kilograms..	177,909	3,558
Barley (Indian) ..... do....	121,263	2,425
Rye ..... do....	13,189	528
Virgin wax ..... do....	614	184
Copper, in bars ..... do....	307,671	103,870
Sleepers, wooden ..... number..	14,452	24,818
Posts and pickets ..... do....	28,572	3,715
Extract of meat	.....	37,273
Fruit	.....	3,936
Flour ..... kilograms..	4,844,385	343,099
Old iron ..... do....	40,000	800
Artificial guano ..... do...	264,806	6,620
Vegetables	.....	132
Linseed ..... kilograms..	23,061,736	1,153,087
Woods	.....	99,108
Indian corn ..... kilograms..	18,634,351	372,804
Peanuts ..... do....	2,617,292	104,691
Half posts ..... number..	311,943	90,280
Silver metal ..... kilograms..	32,101	321,010
Honey ..... liters..	13,967	1,646
Minerals:		
Copper ..... kilograms..	73,196	14,662
Silver ..... do....	239,184	78,403
Lead ..... do....	138,225	4,058
Animal black ..... do....	925,718	37,029
Potatoes ..... do ...	1,382,603	55,402
Baled hay ..... do....	11,460,500	137,531
Straw	.....	301
Empty pipes ..... number..	1,298	1,298
Beans ..... kilograms..	32,255	1,613
Pieces of timber ..... number..	96,620	43,681
Silver (pine-apple) ..... kilograms..	2,126	78,662
Argentiferous lead ..... do....	19,190	1,535
Cheese ..... do....	4,735	947
Ship stores	.....	225,415
Sal ammoniac ..... kilograms..	59,294	16,009
Salt ..... do....	54,485	337
Dried blood ..... do....	789,144	23,674
Alfalfa seed ..... do....	16,448	858
Rape seed ..... do....	963,386	38,535
Leaf tobacco ..... do....	3,810	381
Rags ..... do....	66,267	331
Wheat ..... do....	60,754,677	2,430,184
Guts (salted) ..... do....	8,493	340
Unenumerated articles	.....	202,960
Articles, &c., exported	.....	312,227
Total	.....	8,615,152

In the above tables I have omitted to give in detail the amounts and values of the different articles imported from or exported to the sev-

eral countries trading with the Argentine Republic, for the reason that it would perhaps swell the tables too greatly for the purposes of the Department; though in another place in this report, for the purposes of comparison, I may hereafter make reference to special articles, and the quantities of the same, which certain countries imported to the Argentine Republic during the last year, the greater portion of which the United States, under proper conditions, might be able to supply.

ANALYSIS OF THE RETURNS.

The national statistical office has made an analysis of the imports and exports of 1883, compared with a corrected analysis of those of the previous year, in which all articles of unproductive consumption are separated from those which are used in reproductive industries. I condense from this the following figures:

Value of articles imported for consumption.

UNPRODUCTIVE.

Class.	1882.	1883.
Articles unfabricated	$11,090,431	$16,964,788
Articles fabricated	36,671,553	44,208,467
Total	47,761,984	61,173,355

INDUSTRIAL.

Raw materials	6,616,350	10,910,953
Machinery	5,738,385	6,959,945
Fuel, &c	1,129,325	1,391,575
Total	13,484,060	19,262,473

It will be seen from these tables that the importation of articles of unproductive consumption, which I referred to at length in my last annual report, shows a further diminution during 1883, while those for the development of the industries of the country and the establishment of manufactures are gradually increasing. The tables show that the proportion of the former has decreased from 77.8 per cent. to 76 per cent., while that of the latter has advanced from 22 to 24 per cent. during the last year. Thus may be assumed the progress which the country is making in productive industries. Eight years ago the importation of articles of unproductive consumption was 88 per cent. of the total imports.

CLASSIFICATION OF IMPORTS.

Below, however, I give a table which more clearly classifies the various articles of importation into the Argentine Republic during the years 1882 and 1883, and exhibits more satisfactorily the classes of articles which find a market in this country:

Importations.	1882.	1883.
Food of all kinds	$3,911,150	$4,615,611
Liquors of all kinds	6,905,886	9,316,813
Cigars and tobacco	978,500	1,223,201
Sugar, coffee, tea, &c	6,555,357	7,341,944
Cottons, woolens, and silks	14,000,147	16,482,638
Boots, shoes, hats, and ready-made clothing	3,047,678	3,087,224
Furniture, china and stone ware, glass, saddlery, &c	5,330,832	5,185,006
Fuel and illuminating oils, &c	2,136,781	1,143,065
Articles used for industrial purposes, construction, &c	18,378,713	32,030,216
Total	61,246,044	80,435,828

Comparing the two years, it will be seen that the food imports amounted to 6.4 per cent. of the total importations in 1882 and to 5.7 per cent. in 1883; that the liquors amounted to 11.2 per cent. in 1882 and 11.6 in 1883; that cigars and tobacco amounted to 1.5 in 1882 and 1.6 in 1883; that coffee, tea, sugar, &c., amounted to 10.6 in 1882 and 9.1 in 1883; that the imports of wool, cotton, and silk goods amounted to 22.8 in 1882 and 20.5 in 1883; that boots, shoes, hats, and ready-made clothing amounted in 1882 to 4.9 per cent., and 3.8 in 1883; that furniture, glass, chinaware, saddlery, &c., amounted in 1882 to 8.7 per cent., and 6.4 in 1883; that articles for fuel and light amounted in 1882 to 3.5 per cent., and 1.4 in 1883; and that articles used for industrial purposes, for constructions, for establishing new manufactures, &c., amounted in 1882 to 30.4 per cent., and 39.9 per cent. in 1883. Eight years ago the prime materials for industrial purposes only reached to 15 per cent. of the exports.

CLASSIFICATION OF EXPORTS.

The following is an analysis of the exports from the Argentine Republic for 1883 compared with those of the previous year:

Articles.	1882.	1883.
Pastoral products	$50,780,577	$51,265,509
Agricultural products	4,383,057	4,712,702
Mineral products	587,544	602,400
Forest products	233,961	265,722
Industrial products	3,972,998	3,049,516
Total	59,958,138	59,895,849
Re-exports	430,801	312,127
Total exports	60,388,939	60,207,976

From this table it appears that the pastoral products stood for 85.3 per cent. of the exports of 1883, against 84.1 per cent. in 1882; that the agricultural products stood for 7.8 per cent. in 1883, against 7.6 per cent. in 1882; while there is scarcely any change in the per cent. of the other articles of export.

The great and leading article of export continues to be wool, which last year amounted to just 50 per cent. of the entire exports; the next article being ox and cow hides, which reached to 13.5 per cent. of the exports.

It appears that the agricultural development of the country shows progress. It is true the amount of exports are but little more than that of the previous year; but the season in Europe was an exceptional one, the low prices of breadstuffs which ruled in Liverpool during a large part of the year making it impossible to ship except at a loss.

UNSATISFACTORY CONDITION OF TRADE.

In regard to the foreign trade of the Argentine Republic during 1883, the remarks I made in my last annual report are equally appropriate now; indeed, they may be repeated with even greater emphasis now than then. The business of the year was anything but satisfactory, and much of it proved to be unprofitable.

The total volume of trade, as we have seen, was $19,008,920 more in 1883 than in 1882; but the exports of the country, which should have shown an increase, were really $300,000 less. The explanation sought

to be given is that the falling off in exports is only apparent; that while the official values on the leading articles of export have been reduced, the amount is really greater. This, it is true, is the case with wool. The amount expended in 1883 was greater than in 1882, while the official value was considerably less, as will be seen from the following figures:

Wool shipped in—	Quantity.	Value.
1882.....Kilograms..	111,009,796	$29,978,760
1883.....do....	118,403,66	29,609,918

But in regard to other important articles of export this is not the case. Indeed, if we examine the tables of exports of the Argentine Republic for a series of years, we will find that there has been a very remarkable falling off in the shipment of articles, which, considering the development of the country, we might have expected to increase. This will be seen from the following figures, taken from the official tables of exports:

Amount of exports of certain articles from 1877 *to* 1883.

Articles.	1877.	1878.	1879.	1880.	1881.	1882.	1883.
Hides:							
Dry.....number..	1,725,844	1,611,715	1,668,328	2,203,260	1,718,720	1,454,942	1,392,948
Salted.....do....	762,688	627,087	668,201	588,039	473,650	490,485	517,270
Animal oil.....kilograms..	891,666	815,592	422,625	300,381	199,278	542,602	397,709
Hair.....do....	1,943,565	1,910,885	2,372,962	2,253,411	1,870,105	4,053,717	1,535,247
Horns.....do....	3,862,000	2,998,454	2,706,780	2,966,416	2,903,041	1,410,983	928,473
Jerked beef.....do....	38,732,623	33,600,293	32,336,252	26,116,479	22,412,631	26,966,613	21,545,200
Bones and bone-ash..do....	52,304,685	39,231,010	36,430,207	27,692,477	34,763,049	28,212,508	25,798,365
Sheep-skins.....do....	27,849,009	27,848,592	25,088,878	29,077,187	22,339,591	22,353,021	26,564,619
Ostrich feathers....do ..	58,819	66,444	54,762	72,229	45,238	55,338	42,375
Grease and tallow...do....	27,431,217	21,092,022	15,454,011	11,868,989	10,687,170	18,434,134	15,814,636

These are all important articles and go to make up the bulk of the export trade of the Argentine Republic; and yet, instead of showing any additional development in the last seven years, they all exhibit a gradual but unmistakable decrease; and this list might be considerably extended. So that some better explanation than that sought by the Government must be given to account for the shrinkage in the product of the leading industry of the country—the raising of sheep and cattle.

EXCESSIVE IMPORTATIONS AND OVERTRADING.

If the imports remained stationary with the value of the exports, there would be no occasion for comment; but while the exports last year exhibit an actual decrease, the imports show an increase of $19,000,000 over the figures of the previous year. The Government, which of course is inclined to look on the bright side of the picture, assumes to explain this by the statement that a very large proportion of the importations were prime materials for the planting of new industries or the construction of railways and other works of internal improvement. This explanation may account for a part of this unprecedented increase, but only for a part. These materials, however, are none the less a charge against the country, which must be met at once, while the industries they are intended to develop or the internal improvements they are intended to construct will necessarily be dead, or, rather, un

productive, capital for several years to come. But even after making a liberal allowance for all this, there is yet a very large balance of trade against the nation.

The fact is even more patent than it was a year ago that the commercial business of the Argentine Republic is not in a healthy condition. There is nothing in the progress of the country to warrant or justify, on economic grounds, the excessive importations which the figures expose. In 1882, while the exports were two millions less than in 1881, the imports showed an increase of $5,000,000; and now, while the exports are even less than they were in 1882, the imports exhibit an increase of twenty millions over the figures of the previous year. The following table, made up from the custom-house returns shows the remarkable increase which has taken place in the most important lines of goods:

Importations.	Increase in 1883.
Comestibles	$704,461
Wines and other liquors	2,410,927
Tobacco and cigars	254,702
Sugar, tea, coffee, &c	786,587
Cotton, woolen, and silk fabrics	2,482,491
Total	6,639,168
Materials for internal improvements	13,651,503
Total	20,290,671

Adding to this the increase in the imports of 1882 over the previous year, and we have a total increase of over $25,000,000 in two years, a large proportion of which, considering there has been no appreciable increase in the population of the country, and an actual decrease in exports, should have remained stationary.

The palpable proof of this overtrading is the fact that the bonded warehouses and custom-house deposits are to-day filled to overflowing with goods for which there is no demand; and still every steamer from Europe continues to throw on the glutted market additional invoices of the self-same goods, thus increasing and confirming the complications of the commercial situation. To meet this growing balance of trade against the country, it has of late been almost impossible to secure exchange at any price, neither the Government nor the banks being prepared for the push. I am only afraid that the end is not yet, and that the merchants of the Argentine Republic, unless they at once put a stop to these excessive importations, are paving the way for another financial crisis.

EFFORT TO REPEAL THE EXPORT DUTIES.

To relieve as far as possible this pressure of the money market the President of the Argentine Republic sent a special message to the National Congress at its recent session suggesting an increase in the duties on certain articles of import, and urgently recommending the total repeal of all duties on exports, which for several years have been at the high figure of 7 per cent. on the declared value. His argument was that such repeal, by stimulating exportation, would encourage and increase production. As export duties are a tax on the industries of a nation, they are generally regarded to be a violation of all economic principles; but in the case of the Argentine Republic, which ships the raw material and receives back the manufactured product, it acts as a double burden

on the people. There was an almost unanimous feeling in favor of the proposed repeal, but the Congress has only partially acceded to the views of the President. The new tariff to govern the collection of duties for the year 1885 does not repeal, but very materially reduces, the duties on exports.

THE TARIFF FOR 1885.

Although it has not yet been officially promulgated, I have succeeded in securing an authentic copy of the tariff for 1885, and I give a full translation of its most important provisions below:

IMPORT DUTIES.

ARTICLE I. All foreign merchandise imported for consumption shall pay a duty of 25 per cent. on its valuation in deposit, with the following exceptions: (1) All tobaccos, which shall pay a duty of 55 per cent.; (2) fire-arms and accouterments, powder and munitions, perfumery, cigars of all kinds and snuff, which shall pay a duty of 50 per cent.; (3) ready-made clothing and confections, hats and caps, boots and shoes, saddles and harness, carriages, furniture, matches not of wax, fire-crackers, and objects of art, which shall pay a duty of 45 per cent.; (4) iron, not galvanized, in plates, ingots, bars, &c., white pine, spruce pine, unworked, common salt, all kinds of printing and writing paper, which shall pay a duty of 10 per cent.; (5) canvas of all kinds, gold and silver worked, sewing and embroidery silk, all instruments and utensils with handles or adorned with gold or silver when they increase the value one-third, plows, pipes and casks of wood or iron, printed books with paper covers and without gilt ornamentation, printing presses and all printing materials except types, lithographic presses, all kinds of machinery for agricultural or industrial purposes, steam-engines, thread and wire on spools, staves, sulphuric acid and lime, which shall pay a duty of 5 per cent.; (6) precious stones unset, which shall pay a duty of 2 per cent.; (7) a specific duty of $1.65 on every 100 kilograms of wheat, of 5 cents on every kilogram of starch, of 8 cents on every kilogram of coffee, of 7 cents on every kilogram of maccaroni, of 9 cents on every kilogram of crackers or other biscuit, of 4 cents on every kilogram of flour or corn-meal, of 4 cents on every kilogram of hominy, of 30 cents on every kilogram of tea, of 7 cents on every kilogram of yerba-maté, of 7 cents on every kilogram of sugar, of 6 cents on every liter of common wine in casks, of 22 cents on every liter of fine wine in casks, of 22 cents on every bottle of wine not over one liter, 15 cents on every bottle or liter of beer or cider, 15 cents per liter on alcohol in casks not over 30°, 15 cents on spirits in general not over 25°, 25 cents on alcohol and spirits, bottled, of not more than one liter and not exceeding 30°, liquors, bottled, not over one liter, not exceeding 25° (all liquors of greater alcoholic strength shall pay in proportion), 5 cents per liter on kerosene, 10 cents per kilogram on stearine and paraffine candles, $10 per gross on cards, 50 cents per kilogram on wax matches; and all articles which pay according to weight shall be weighed packed.

FREE LIST.

ART. II. The following articles shall be free of duty, viz: Vessels and machinery for vessels; coal; wire for fencing and telegraphs; blood stock; live animals; fish; fresh fruit; immigrants' furniture and tools; gold and silver, whether coined, in powder, grain, or bars; plants; iron and steel for railways and tramways; locomotives; wheels for same; ungalvanized iron pipes for gas or water supply; with at least 75 millimeters diameter; quicksilver; fan guards; casks of more than 2 kilograms; mining powder; mercury; articles for worship requested by prelates; seed for agriculture; specifics for scab in sheep; red and yellow clay.

EXPORT DUTIES.

ART. III. All kinds of produce, fruits, or manufactures shall be exported free of duty, with the exception of the following, viz: Dirty or unwashed wool, wild-fowl skins, sheep skins dirty or unwashed, and ostrich feathers, which shall pay a duty of 4 per cent., and animal oils, horn and horn piths, bone-ash, horse-hair, hide cuttings, grease and tallow, bones and skins not included above.

The other provisions of the law quite correspond to those of the present tariff. By comparing the duties of the two, it will be seen that, so far as imports are concerned, there is an increase of 5 cents per bottle on bottled liquors, while liquors in casks, which heretofore paid a duty

of 50 per cent., must now pay 25 cents per liter; kerosene, which before paid 25 per cent. on the value, must now pay a specific duty of 5 cents per liter; furniture, which before paid 40 per cent., must now pay 45 per cent. on the value; tobacco, which before paid 50 per cent., now must pay 55 per cent. on the value. There are a number of other similar changes.

In regard to exports, the articles named above as now to pay a duty of 3 and 4 per cent., respectively, before were required to pay 7 per cent.; this reduction to take effect at once.

THE COMMERCIAL OUTLOOK.

What will be the effect of these modifications of the export duties remains to be seen. They may to some extent stimulate the exportation of the articles referred to, and thus assist to reduce the balance of trade against the country, which is every year increasing. I doubt, however, if they produce the full effect which is anticipated. Indeed, there is more to be hoped from the increase in the import duties, since this may have a tendency to stop the excessive importations, which are so unmistakably unsettling the normal conditions of trade.

Should it, however, be impossible for the Government to prevent the commercial revulsion which now seems impending, the country is at least in a far better condition to meet it than it was ten years ago, when the nation was overwhelmed by a similar crisis, the result of a similar cause. There is now far more fixed wealth among the people; there are millions upon millions more of sheep in the country; there is no inconsiderable agricultural development; there are now large industrial interests planted in various parts of the interior; and, above all, the Government and the banks are more able to assist the legitimate demands of trade and ease up any commercial disasters which may overtake the business of the country.

E. L. BAKER,
Consul.

UNITED STATES CONSULATE,
Buenos Ayres, September 30, 1884.

PROGRESS AND DEVELOPMENT OF THE ARGENTINE REPUBLIC.

REPORT BY CONSUL BAKER, OF BUENOS AYRES.

The prosperity which so greatly characterized the condition of the Argentine Republic at the close of my last annual report has even more abundantly distinguished it during the consular year just ended. In every respect the country has continued to be eminently progressive and promising. Its peaceful relations with all nations have been uninterrupted, while its internal affairs have been marked by a uniform regard for the national authority and a general acquiescence all over the Republic in the administration of the laws of the Congress. The work of consolidating the nation, which has in the past been little more than fourteen provinces or states, with no appreciation of a common interest, has been one of the great objects of President Roca's administration; and the progress which has been made is fully apparent in the increased alacrity which the people of all parts of the country now manifest in the support of the federal authorities. Heretofore each one of the prov-

inces has not only exhibited a jealousy of the others, but they all seemed to be mutually jealous of the General Government. But the greatest unconcealed antipathy has been between the *portaños* or natives of Buenos Ayres and the people of the interior provinces, who, by way of depreciation, have been called *provincials*. Nearly all the revolutions and uprisings of past years have been predicated on this antipathy. All this is gradually being changed. The federalization of the city of Buenos Ayres, placing it, as the capital of the nation, on the same basis as Washington, was the first movement towards the dissipation of these political animosities. This has been followed up by a liberal policy towards all the interior provinces, and to-day the people of the different parts of the Republic begin to appreciate that they all belong to the whole country, and that the highest title that any one of them can assume is that of being an *Argentine*.

GENERAL CONDITION OF THE DIFFERENT PROVINCES.

There are still irregularities, perhaps, in the conduct of elections and deficiencies in the administration of justice. There is still some clashing of national and provincial authorities, and many reforms to be inaugurated; but with the continuance of internal peace and quiet these things will doubtless be corrected. There have, however, been no disturbances which have not been readily accommodated. Some disorders and bloodshed, owing to local politics, are reported from San Juan, and an uprising against the provincial authorities in Santiago del Estero required the interposition of the President; but there has been no movement anywhere against the national authorities—no state of siege, no martial law. As Dr. Irygoyen, minister of the interior, says in his report, "the laws have everywhere been peacefully enforced, without regard to political opinions, religious beliefs, or social conditions." Indeed, the several provinces, following the lead of the General Government, are all busily engaged in extending railways, opening irrigating canals, fostering agriculture, inaugurating methods of internal improvements, and devising ways and means for the development of their resources.

The province of Buenos Ayres, heretofore the focus of political intrigues, has been especially conspicuous in works which make for the advancement of the country. During the last year, besides fostering the construction of several important railway extensions, it has itself, from its own abundant means, been actively occupied in the work of railroad construction, and several very important branches to its Great Western Railway have been opened to traffic. Besides this it has been engaged in preparing its new capital, La Plata, for occupation; and where twelve months ago there was only a dreary wilderness to-day are to be seen the foundations of a magnificent city, which already contains over 20,000 inhabitants, with finer public edifices than are to be found anywhere in this country, or, indeed, even South America. It is likewise constructing a port at the bay of Ensenada capable of floating the largest-sized vessels, to be connected with the new city by a sufficient canal.

The province of Santa Fé is extending its agricultural colonies in all directions. These colonies to-day contain 60,000 armers, immigrants from Europe, and the number of acres in cultivation is over 900,000. It is also constructing railways out from Rosano and Santa Fé to reach these agricultural settlements. In the province of San Juan there are now 300,000 acres of land under cultivation, of which

about 25,000 are in vines, and the last year's vintage was most satisfactory both in quantity and in quality. In Santiago del Estero there were planted last year over 12,000 acres in sugar-cane, and extensive sugar works have been erected in various parts of the province. In Tucuman the sugar industry is assuming large proportions. It now represents $16,000,000, against $9,000,000 in 1881. In Entre Rios there are now twenty five agricultural settlements, with 132,930 acres in cultivation. Catamarca, San Luis, and Rioja, whose progress has been retarded by continuous droughts, are now engaged in the construction of works of irrigation, and in the latter province a critical examination of the mineral wealth is being made by English capitalists, with a view to the erection of extensive quartz mills and other machinery. Jujuy has just set aside a large amount of its territory for the settlement of agriculturists, as has also the province of Corrientes, under conditions which will probably make them sought after. The province of Mendoza, whose exuberant pasturage and extensive vineyards are well known, exported to Chili last year 71,000 head of cattle, representing a value of $1,700,000, and to Buenos Ayres 12,158 casks of wine, while its agricultural lands now amount to 447,905 acres. Salta, besides its growing sugar industries, has embarked in the growing of coffee, under circumstances which will doubtless make the industry a great success. Cordoba is also building works of irrigation, and every year is extending the breadth of land devoted to vines and cereal crops.

MISIONES AND ITS EXPLORATION.

The national territories, in regard to which in former reports I have had occasion to speak, are in every respect fulfilling the predictions I have made of their development. No great movement has been made in Misiones since its organization under a territorial government, owing in great part to its want of accessibility. The project for a railway from Concordia, on the Uruguay River, to Posadas, the new capital of Misiones, has not yet been definitely acted upon by Congress, owing to differences of opinion as to the proposed Government guaranty of 6 per cent. upon the cost; but there is now regular communication by the Upper Parana River, in small steamers, which start from the city of Corrientes. During the last year Posadas has been united with this capital by telegraph, thus greatly facilitating commerce and general business. In my last annual report I referred to an exploring expedition, under the command of Capt. Hunter Davidson, formerly of the United States Navy, to the northern limits of the Republic. Its especial object was to verify the boundary line which separates this country from Brazil. The expedition was in every respect successful in its primary object; but the interest in Captain Davidson's report is greatly enhanced by his graphic description of the country through which he passed—rich in all the elements of national wealth, but yet absolutely destitute of inhabitants. Even the Indian tribes, which are to be encountered almost everywhere else, were entirely wanting. The expedition went up the river which is navigable for light-draught steamers as far as the falls of Ygnazu, about which heretofore so little seems to have been known, and which probably had not been visited by a white man during the last hundred years. From the accounts Captain Davidson gives of these falls, they must be one of the grandest and most wonderful sights in nature. Indeed, for magnificence and extent he knows of nothing to equal them in this or any other country. The falls or series of falls far exceed Niagara, not only in altitude but in the number and variety of the cascades, which pour over precipices for miles around in every direction. The body of water, however, is considerably less.

The dense tropical forests made it almost impossible to take photographs of the marvelous panorama; but by scaling and fixing the instruments in the tops of the immense trees, a series of most remarkable views were obtained. Captain Davidson's report, with illustrations, is to be published, and I am sure it will command general attention as a most interesting addition to our knowledge of the geography of South America.

Another report on the vegetation, woods, medicinal and textile plants, and other products of Misiones, has also been ordered to be made by the Argentine Congress, and Mr. N. Niederlien, a German naturalist, has been selected for the work.

Several settlements with a view to agriculture have been made in Misiones during the last year, and a movement is now being made to grow the sugar-cane upon a large scale. It will not be long before the mysterious forests of all that section of the national territory will be opened up to the busy hand of industry.

CONQUEST OF THE GRAN CHACO.

And the same may be said of the territory of the Gran Chaco. As I have mentioned in former reports, a line of settlements are now being extended all along the coast of the Paraguay River, and the exploitation of the timber is getting to be no inconsiderable industry; but in spite of the various expeditions which have been sent into the interior of the Chaco to explore the unknown depths of its forests, but little is yet really known in regard to the possibilities of that almost boundless wilderness. Between hostile Indians and want of water all these movements have come to conspicuous grief. With a view to the military occupation of all that country, and the expulsion or conquest of the Indian tribes, the Argentine Congress, at its last session, made an appropriation of $500,000 for the expenses of an armed expedition, which, besides its aggressive policy towards the Indians, is to open roads, make surveys, select posts for military forts, dig wells, designate the most desirable points for settlements, and to cover the entire line of frontier, which borders on Bolivia. In fine, the expedition is expected to do everything necessary to master that vast extent of territory, and place it in a condition for receiving a civilized population. The country proposed to be occupied comprises about 12,000 square leagues, watered by and contained between the rivers Bermijo, Pilcomayo, Parana, and Paraguay, and extending up to the mountains which separate this Republic from Bolivia. The preliminaries for this expedition are now being arranged.* Among other things, it is intended to furnish it

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The expedition took its departure last week. The Buenos Ayres Standard says of it:

"*Gran Chaco expedition.*—Yesterday his excellency General Victorica, minister of war, started with a brilliant staff for the Gran Chaco. He was accompanied to the head of the Catalinas mole by the President of the Republic and a whole host of friends. President Roca, when bidding the minister good-by, said, 'I wish you, general, the best of health and good fortune and good luck in your expedition, and I hope that on next New Year's day we shall be able to present our country with 12,000 leagues of fertile, rich land. The Chaco which you go to conquer will *prove yet a magnificent region, not alone for the Republic but for civilization.*' The splashing of the oars mixed with the cheers of the bystanders at the conclusion of these spirited words of President Roca; and, beaming with hope and joy, General Victorica waved his adieu to his friends on shore.

"With intense attention we shall watch the progress of this expedition, which we believe will give the very best results, and *throw open to the surplus population of Europe a territory sufficient to support double the population of the whole Republic.* We have a special reporter accompanying the minister of war, and regions that never before were visited by civilized man will soon be offering for sale by the square leagues on our *bolsa.* We hope to see the Government selling 10,000 square leagues at 400 nats. per league, as we believe we could find the buyers."

with a number of light-draught steamers, flat-bottomed, like those which ply on the Illinois River, for the purpose of thoroughly testing the navigability of the Rio Bermijo, that possible outlet for the commerce of Bolivia, and to remove all obstacles which may impede the passage of boats. There are many who thoroughly believe that the Bermijo offers, with proper improvement, a great water-way between Bolivia and the Argentine Republic, and the spasmodic attempts which in late years have been made to navigate it would clearly indicate that, with a suitable class of water craft, there are no difficulties which cannot be surmounted. The fall of the Bermijo is about a foot to the mile, and the current runs at the rate of only about a mile and a half per hour. Its depth varies from 6 to 15 feet near its junction with the Paraguay River, and its width is from 200 to 600 feet. The river has a tortuous course, with heavy timber along its banks, and small steamers have already succeeded in ascending it for about 600 miles. Great expectations are based upon the result of this expedition, and many seem already to have caught a glimpse of the immense development which is destined to make the Gran Chaco one of the chief sources of the nation's wealth.

THE SETTLEMENT OF PATAGONIA—EXPLORATIONS.

I do not fully coincide with these expectations, for the reason that the climate of the Chaco is too warm to attract much of the European immigration, at least while there is so much outlying territory still unoccupied with a more agreeable temperature; and this is especially the case with the northern portion of Patagonia. Over ten years ago, in one of my earliest reports, I alluded to the possibilities of no inconsiderable outcome for Patagonia, and my predictions are being fulfilled, even to a greater extent than I then anticipated. The changes which in the last few years have transpired in that hitherto most unpromising portion of the Argentine Republic are marvelous, and if the development which is now taking place continues at the present rate, Patagonia will in a few years be one of the richest inheritances of the nation. The Government is lending all its available assistance to this end. Since my last annual report, which detailed the results of various expeditions to explore the country immediately under the Andes, the attention of the Government has been particularly directed to the Atlantic coast. The report of Governor Winter on this subject is exceedingly interesting to the general public. He states, as the result of these more recent explorations in the southern parts of Patagonia, that the interior is not a continuous plane, like the pampas of Buenos Ayres, but that it is considerably broken up by volcanic action, thus producing numerous elevations and great variety to the country. Between these elevations are cañons, low, deep glens, and wide valleys, which are rich in natural grasses and watered by streams which come down from the mountains. All the region between the Chupat and Tapeley rivers unites the conditions of fertility, great mineral riches, and a climate which admirably fits it for settlement. The region comprehended between the Senger River and the Atlantic coast, though not so rich as that of the center, yet possesses wide breadths of good pasture lands and fertile valleys, with never-failing water, capable of holding thousands of horned cattle and horses; and the same, to a somewhat less extent, may be said of the zone back of Port Desire. Hills of moderate height alternate with cañons and valleys possessing most excellent grasses.

The district of Viedma, the capital of Patagonia, now contains 37,000 inhabitants, with excellent public buildings, churches, and schools, at which latter 578 children attend. Its exports last year reached to $66,946, and its imports to $731,618. The colony at Chupat continues to thrive, and will soon have a well-constructed dam sufficient to hold the waters of the river for irrigating purposes. As the bar at the mouth of the river prevents the entry of large vessels, a project is now before the Argentine Congress to build a railway from the colony to New Gulf, a distance of about 30 miles, where there is a magnificent harbor and a depth of water sufficient to float the very largest vessels. This would be a great stimulus to the growth of the Welsh colony.

The Government has planted settlements during the year both at Port Desire and at Santa Cruz, both places offering everything that could be desired in the way of safe harbors. In spite of the old story, that the country in the vicinity of these places is little less than a desert, it now appears that there is an abundance of good pasturage in the vicinity; and cattle, sheep, and horses have been transported there. The temperature, it is said, is not severe, the mercury in winter not falling below 15 degrees of Fahrenheit. A settlement has also been provided for on the east coast of Tierra del Fuego.

With a view to make the communication between Buenos Ayres and the coast of Patagonia as easy and as frequent as possible, the Government has entered into a contract with reliable parties at $3,000 per month for a steam service, which will regularly touch at all the ports and settlements as far south as Tierra del Fuego. The contract is to run for twelve years, and cannot fail to be of immense benefit in the development of that coast.

Another scheme which the Government is now considering is a railway from Bahia Blanca to Carmen de Patagones, thus bringing the latter place in direct railroad communication with Buenos Ayres. I have no doubt that the line would pay, as it would be fed by the produce of the whole valley of the Rio Negro and of the Mesopotamia, formed by the Rio Negro and the Colorado. There is already a line of small steamers running up the Rio Negro for several hundred miles. Already thirty thousand people are settled along that river, and many fine *estancias* have, during the year, been opened almost under the brow of the Andes. A large German settlement will probably be made on the river Limay during the present year.

All these are most eloquent proofs of the progress of the Argentine Republic; and, in my opinion, it will only be a few years before the long-neglected territory of Patagonia will be a mine of wealth to the Government.

NEW SUBDIVISIONS OF THE NATIONAL TERRITORIES.

In my last annual report I referred to a project to subdivide the several national territories, their very unwieldly size making it difficult to govern them in such manner as would conduce to their material progress and most rapid development. The scheme is now fully matured, and has just received the favorable action of Congress. The following shows the reconstruction of the territorial governments, the subdivisions making nine territories out of the former three:

Territory of the Pampa.—Bounded on the north by the thirty-fifth parallel, which separates it from the provinces of Mendoza, San Lius, Cordova, and Santa Fé; on the east by the province of Buenos Ayres; on the west by the province of Mendoza and the Colorado River, and on the south by the Colorado River.

Territory of Neuguen.—Bounded on the north by the province of Mendoza, and along the river Barrancas and continuation of the Colorado; on the east by the river Neuguen to its confluence with the river Limay; on the south by the river Limay and Lake Nahuel Huapi; on the west by the Chilian boundary line.

Territory of the Rio Negro.—Bounded on the north by the Colorado River; on the east by the fifth meridian to the Rio Negro; thence along this river to the Alantic coast; on the south by the forty-second parallel; on the west by the Cordilleras, the river Limay and the river Neuguen.

Territory of Chupat.—Bounded on the north by the forty-second parallel; on the east by the Atlantic Ocean; on the south by the forty-sixth parallel; on the west by Chili.

Territory of Santa Cruz.—Bounded on the north by the forty-sixth parallel; on the east by the Atlantic Ocean; on the south by the fifty-second parallel, and, following the Chilian boundary line; on the west by Chili.

Territory of Terra del Fuego.—Bounded on the north by the Straits of Magellan; on the east by the Atlantic Ocean; on the south by the Atlantic Ocean, and on the west by the Chilian boundary under the treaty of July 23, 1881, and including States Island in the Atlantic.

Territory of Misuris.—Bounded as at present.

Territory of Formosa.—Bounded on the north by the Pilcomayo to the Bolivian frontiers; on the east by the Paraguay River; on the south by the Bermijo River; on the west by the Bermijo River up to the Teuco River.

Territory of the Chaco.—Bounded on the north by the Bermijo River; on the east by the Parana and Paraguay rivers; on the south by the twenty-ninth parallel; on the west by a line from Tostado to Las Barrancas on the Salado; thence in a straight line to the branch of the Teuco, through the old "Carreta Quemada" fort, on the branch of the Bermijo.

RAILWAYS OF THE ARGENTINE REPUBLIC.

It is several years since I made a detailed exhibit of the various railways which are now in operation or in process of construction in the Argentine Republic. It may not be without interest now to note the progress in railway building which has recently been made in this country. For the more satisfactory exhibition of this, I give below, first, the railways in operation; second, those under construction; third, those whose surveys have been completed; and fourth, those now being surveyed. The figures I give are from official sources:

RAILWAYS IN OPERATION.

	Kilometers.
The Central Argentine, running from Rosario to Cordova	396
The Northern Central, from Cordova to Tucuman	546
The Andine Railway, from Villa Maria to Mendoza	611
The East Argentine, from Concordia to Monte Caseros	160
The Campana Railway, from Buenos Ayres to Campana	67
The First Entre Rios Railway, from Port Ruiz to Gualeguay	11
The Great Western, from Buenos Ayres to Nueve de Zulio	258
The Great Western branches to Lobos, Pergamino, and San Nicolas	422
The Ensenada Railway, from Buenos Ayres to Ensenada	57
The Northern Railway, from Buenos Ayres to the Tigre	30
The Western Santa Fé, from Rosario to Villa Casilda	60
The Great Southern, from Buenos Ayres to La Gama	455
The Great Southern, from La Gama to Bahia Blanca	261
The Great Southern, from Attamirano to Tandil	307
Total in operation	3,641

RAILWAYS IN COURSE OF CONSTRUCTION.

	Kilometers.
The Andine Railway, from Mendoza to San Juan	158
The Northern Central, from Tucuman to San José de Metan	180
The Northern Central, from Frias to Santiago del Estero	162
The Northern Central, from Ricreo to Chumbicha	176
The Transandine Railway, from Mercedes to Villa Mercedes	579
The Great Western branches to Junir, Saladillo, and Marmol	198
The Great Western, from Santa Fé to the agricultural colonies	90
Total in course of construction	1,543

RAILWAYS WHICH HAVE BEEN SURVEYED.

	Kilometers.
The Northern Central, from Chumbicha to Catamarca	65
The Northern Central, from Chumbicha to Rioja	88
The Northern Central, from San José de Metan to Jujuy	214
The Northern Central, from San José de Metan to Satta	252
The Great Western, from La Plata to Magdalena	45
The Interfluvial, from Concepcion del Uruguay to Paraná	290
Total whose surveys have been completed	954

RAILWAYS NOW BEING SURVEYED.

	Kilometers.
The East Argentine, from Monte Caseros to La Cruz	180
The East Argentine, from Monte Caseros to Mercedes	160
The East Argentine, from Concepcion del Uruguay to Concordia	150
Campana Railway, from Campana to Rosario	220
Total being surveyed	710

The whole railway system now consists of 3,641 kilometers in operation, 1,543 kilometers in process of construction, 954 kilometers whose surveys are completed, and 710 kilometers being surveyed—total, 6,848 kilometers.

STAGE LINES THROUGH THE INTERIOR.

Notwithstanding the rapidly increasing miles of the railway system of the Argentine Republic, there are of course wide districts of country which are still without railroad facilities. These are reached, from the various points on the different railway lines, by means of diligences or stage-coaches—large lumbering vehicles, drawn by eight horses, four abreast, and capable of carrying about twenty passengers, together with an unlimited amount of luggage. Over the level country their progress is without difficulty, and they answer an admirable purpose as means of intercommunication with the isolated interior. To support some of these lines, which otherwise would not perhaps pay expenses, the National Government appropriates annually, by way of subsidies, about $200,000. In the province of Buenos Ayres there were last year 51 of these stage lines, using 262 diligences, 10,988 horses, and 935 men to operate them. In the province of Cordova there are 4 lines, which last year carried 5,183 persons. In the province of Salta there are 5 lines, which carried 2,800 persons. In the province of Entre Rios there are 18 lines, 4 in Mendoza, 2 in San Luis, 14 in Santa Fé, and about as many more in the remaining provinces. The expense of transportation is from $1 to $1.50 per 25 pounds for 50 miles; and the progress is at the rate of about 3 leagues per hour. In almost all cases these diligences also carry the mails for the Government.

THE POST-OFFICE RETURNS.

Some idea of the importance and extent of the post-office service of the country may be obtained from the following returns for last year:

	Letters.
Correspondence with the interior	17,300,000
Correspondence with other countries	3,700,000
Total	21,000,000

Being an increase of 4,000,000 over that of the previous year.

The receipts of the post-office department in 1883 were $574,167, an increase of $110,274, or 23 per cent. over those of the previous year. The expenses were $553,121, or $21,046 less than the receipts; so that the service may be said to be self-supporting.

The Argentine Republic is now a member of the Berne Postal League, and all correspondence for this country only pays the union rates. Under some clause, however, in the Postal League, this Government, instead of 5 cents, charges 12 cents per quarter-ounce on all letters for Europe or the United States, an inequality for which there seems to be no sufficient excuse or explanation. The postage required on newspapers going out of the country is 2 cents on every 50 grains of weight, about twice the expense of a newspaper sent here from the United States.

THE ARGENTINE TELEGRAPHIC SYSTEM.

The telegraphic service of the Argentine Republic now reaches to all parts of the country, even the frontiers being in communication with this city. There are three classes of telegraphic lines, as follows: those owned and operated by the national authorities; those owned and operated by the province of Buenos Ayres, and those owned and operated by private parties. The total service now consists as follows:

	Kilometers.
Length of the national lines	8,320
Length of the provincial lines	2,409
Length of the private companies	3,741
Total length	14,470

The increase during the last year was 1,249 kilometers, and there are now in course of construction by the national Government 1,490 kilometers, and 1,150 projected. The Government at present has about 500 telegraphic employés, and transmitted last year 487,726 dispatches, for which it received $306,618. The price of a dispatch of ten words to any part of the Republic, no matter how far or how near, is 40 cents.

There are two lines of telegraphic communication between the Argentine Republic and the United States, one by way of Europe and the other by way of the west coast and Galveston.

TELEPHONE SERVICE.

I may state here, that communication by telephone is now permanently established not only in Buenos Ayres but in all the considerable cities of the country. The service is divided between three systems, viz, the "Gower-Bell, the "Bell perfected" and the "Portable." So general is this mode of communication that in this city there is, on an average, one instrument to every one hundred and fifty inhabitants.

TRAMWAYS.

But the tramway service of Buenos Ayres probably exceeds, according to population, that of any city in the world. It is only eighteen years since the first tramway or horse-car company was organized in this place, and now the total length of the rails laid within the corporation amounts to about 80 miles, not to speak of the lines running outside to Belgrano and Flores. The price of tickets inside the city is 8 cents for any distance. These tram-cars last year transported 20,053,486 persons, the receipts being estimated at $2,200,000, which putting the working expenses of the companies at 50 per cent. leaves a wide margin for profits.

There are street-cars also in the cities of Cordova, Rosario, and Tucuman, all of which do a good business.

RIVER COMMERCE.

The river commerce by the Rio Parana and the Rio Uruguay, those two great arteries which permeate through the entire length of the Argentine Republic, keeps equal pace in its development with the railway system of the country. The returns of this internal navigation for 1883 are as follows:

Class.	Arrivals.		Departures.		Total.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
Sailing vessels	16,411	517,700	16,835	550,844	33,246	1,068,544
Steamers	6,031	1,545,658	6,041	1,515,148	12,072	3,060,806
Total	22,442	2,063,358	22,876	2,065,992	45,318	5,129,350

As showing the remarkable manner in which this river tonnage is increasing I place together the official returns for the last four years:

Year.	Arrivals.				Departures.			
	Sailing vessels.		Steamers.		Sailing vessels.		Steamers.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
1880	14,276	388,203	3,962	620,154	14,227	357,097	3,684	590,000
1881	16,878	518,192	5,848	1,280,043	17,132	481,459	5,483	1,291,710
1882	15,725	478,465	6,002	1,351,468	16,195	500,388	6,012	1,298,533
1883	16,411	517,700	6,031	1,545,658	16,835	550,844	4,041	1,515,148

It will be seen that during these four years, while navigation by sailing vessels has decreased from 38 per cent. in 1880 to 26 per cent. in 1883, steam navigation has, in the same time, increased from 62 to 74 per cent. of the whole amount of tonnage.

Of the total interior navigation in 1883, 28 per cent. belonged to Buenos Ayres, 16 per cent. to Rosario, 12 per cent. to St. Nicolas, and the remaining 44 per cent. distributed among the remaining ports of the country.

The nationality of the vessels engaged in the river commerce during

1883 was as follows: Argentine flag, 54 per cent.; French flag, 29 per cent.; English flag, 7 per cent.; Uruguayan flag, 3 per cent.; Italian flag, 2 per cent.; and all other flags 5 per cent.

THE RIOCHUELO PORT OF BUENOS AYRES.

The work of dredging the Riochuelo, with a view of making of that little stream a port for Buenos Ayres, has been energetically continued during the year. Besides the dredging there has been a great deal accomplished in the construction of a continuous mole along the north bank. This now is complete for a distance from the mouth of 3,475 linear meters, at the same time that 10,504 square meters have been paved with cut stones, and 42,120 square meters with macadam.

In 1883 the number of vessels which entered the Boca was 47,309, with a total tonnage of 1,207,321 tons. Of these 601 were sea-going vessels with a tonnage of 249,574 tons. Comparing these figures with those of 1882 it shows a total increase of 4,619 vessels and of 211,724 tons, and an increase of sea-going vessels of 164 vessels and of 83,070 tons. Vessels drawing even 21 feet safely entered the Boca during the year, whereas last year no vessel drawing more than 18 feet could enter. The total length of the channel from Barrancas Bridge to its farthest point in the Rio de la Plata is now 11,300 meters, or about 35,000 feet.

ARTESIAN WELLS.

The sinking of artesian wells in the interior provinces, with a view to guarding against the continuous droughts which frequently prevail there, has so far not proved successful. In different parts of Rioja boring with the most approved French machinery has been made to a depth of several hundred feet, but thus far no artesian water has been reached. Attempts are likewise being made in Santiago del Estuo, and also in the provinces of Cordova, San Luis,* Mendoza, and San Juan, and those who are in charge of the works are quite sanguine that upon sinking to a sufficient depth flowing water will be obtained. The machinery now in use has a capacity to reach to a depth of 700 meters, say 2,500 feet, but geologists, acquainted with the formations in which artesian water is found, express great doubts in regard to the result. The national authorities are doing all in their power to give the experiment a full and complete trial during the present year.

MINES OF THE ARGENTINE REPUBLIC.

There is little to be said, in addition to what was given in former reports, in regard to the mining industry of the Argentine Republic. The Executive has recommended various measures for the consideration of the Congress which would have a tendency to place the mining interests upon a better basis and create a disposition towards the development of the mineral wealth which is believed to exist in the upper provinces. Among these measures is a mining code and a school of mines; but thus far nothing has been done, and it is supposed that the present session will adjourn without taking any definite action in re-

* Intelligence has just reached here that water has been reached at Balde, in the province of San Luis, at a depth of a little over 300 feet. The water rises to a height of about 240 feet. The event has caused great rejoicing in that province.

gard to either project. The quantity and value of the exports of minerals during the year 1883 will be seen from the following returns:

Minerals.	Quantity.	Value.
	Kilo.	
Silver	32,101	$321,010
Silver ore	239,184	78,403
Silver, virgin	2,126	78,662
Copper ore	73,196	14,662
Lead ore	138,225	4,058
Lead, argentiferous	19,190	1,535
Total in 1883		498,430
Total in 1882		568,591
Total in 1881		402,763

The imports of gold and silver in 1883 were $2,434,968 against $2,772,776 in 1882; and the exports were $4,904,464 in 1883 against $4,904,000 in 1882.

The amount of gold and silver coined at the Argentine national mint during the year 1883 will be seen from the following table:

Gold (906,042 argentinos, gross weight 7,736 kilograms, 838 grams, 5 milograms)		$4,533,210
Silver (gross weight 42,854 kilograms, 836 grams):		
98,000 pieces of $1	$98,000	
2,073,380 pieces of 50 cents	1,036,690	
1,510,950 pieces of 20 cents	302,190	
2,785,650 pieces of 10 cents	278,565	
		1,715,445
Total value of gold and silver coinage		6,248,655

While a portion of this coinage was metal from the mines of the Argentine Republic, the greater portion was the recoinage of the stamped coin of other South American countries, and bars from England.

Several European mining engineers of high standing during last year visited the interior provinces with a view to investigate their mineral resources. One of them, Mr. John Pemberthy, has submitted a report to the Government in regard to the mines of Guanchaca, in which he confirms the opinion that in Famatina there is a great field for the mining industry, the Sierras being very rich in gold and silver in ley. He also visited the mines of Capillitas and Atajo in the province of Catamarca, and reports most favorably in regard to the richness of the copper and silver mines of that province.

IMMIGRATION.

The current of immigration into the Argentine Republic continues to increase year by year. The arrivals in 1883 were 63,242, against 51,503 in 1882 and 31,817 in 1881. The returns show that last year 3,336 families were among the immigrants, each containing from 3 to 12 persons, thus proving that they came to make this country their permanent home. Of the nationality of these immigrants it appears that 81 per cent. were Italians, 4 per cent. Spaniards, 4 per cent. French, 3 per cent. ———, 2 per cent. Germans, and the balance Swiss; and it further appears that 64 per cent. were agriculturists. The published returns for the present year show that the influx is still quite steady, in spite of the ravages of cholera in the Mediterranean ports, the arrivals being 34,798 up to June 30. As, however, all Argentine ports are now closed to steamers from

the infected countries, it is probable that the rest of the year will show a falling off in the number of immigrants. The newcomers, as a general thing, do not remain in this port, but are forwarded at once into the interior. Last year 6,271 went to the farming lands of the province of Santa Fé, 8,156 to those of the province of Buenos Ayres, and 3,134 to those of Entre Rios.

DISCOVERY OF COAL.

But of greater importance to the development of the country is the announcement now made that Colonel Olascoago, in charge of an exploring expedition in the Andine region, has discovered most extensive coal deposits, which stretch for hundreds of leagues from the province of San Luis to the Andes and the Neuquen triangle. The samples of coal exhibited are pronounced to be excellent. The Government is so impressed with the information that it has appointed a commission of practical miners, headed by Señor Juan J. Elia, to determine all necessary data in reference to localities, conditions, &c., and to make full tests of its value, as also to report in regard to all other minerals which may be found. The fact that coal is found and worked at Sandy Point, in the Straits of Magellan, and as far north, on the eastern side of the Andes, as Skyring Water, long since led me to express the opinion that it must certainly underlie the entire region of the Andine slopes, and that if proper shafts were sunk it would be revealed. These discoveries fully sustain what I then said, and if the quality is such that it can be used for manufacturing purposes, there is no estimate of the mining and other industries which will ultimately be developed in the interior provinces of the Argentine Republic.

AGRICULTURE.

In regard to agriculture it is only necessary to say that the breadth of land put down in cereal crops was greater last year than ever before; and the yield was so generous that it has given a great impetus to the agricultural interests. Had prices kept up in European ports, the exports would have been far larger than the returns indicate; but through much of the season it was not possible to ship at paying prices. The following figures show the exports of field products for the last two years:

Articles.	1882.	1883.
	Kilograms.	*Kilograms.*
Wheat	1,705,292	60,754,677
Flour	548,779	4,844,385
Indian corn	107,327,455	18,634,351
Barley	1,100,063	177,909
Baled hay	10,774,847	11,460,500
Linseed	23,351,794	23,061,736
Peanuts	422,399	2,617,292
Potatoes	328,797	1,382,603

The amount of sugar produced in the provinces of Tucuman, Santiago, and Salta was 24,000,000 kilograms, about one-half of the quantity required for the home consumption. The vine industry is also progressing with most promising prospects, and the demand for it is constantly extending, not only in the interior, but in this city.

FOREIGN NAVIGATION OF THE ARGENTINE REPUBLIC.

The foreign shipping of the Argentine Republic for the year 1883 will be seen from the following tables made up from figures furnished by the national statistical office:

Class of vessels.	Arrivals.		Departures.		Total.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Sailing vessels	3,445	517,070	2,263	424,124	5,708	941,194
Steamers	3,626	1,437,018	3,172	1,318,201	6,798	2,755,219
Total	7,071	1,954,088	5,435	1,742,325	12,506	3,696,413
In 1882	6,071	1,528,054	4,765	1,448,139	10,036	2,976,193
Increase	1,000	426,044	670	294,186	2,470	720,220

It will be seen from these figures that steam now represents 75 per cent. and sailing vessels 25 per cent. of the foreign navigation of the Argentine Republic.

Arrivals and departures according to flag.

Flag.	Kind of vessel.	Arrivals.		Departures.	
		Number.	Tonnage.	Number.	Tonnage.
German	Sailing vessels	97	30,064	85	30,014
	Steamers	85	128,661	84	130,982
	Total	182	158,725	169	160,996
Austrian	Sailing vessels	31	12,760	21	8,740
	Steamers	1	1,616	2	732
	Total	32	14,376	23	9,472
Belgian	Sailing vessels	1	315	1	315
	Steamers	10	12,166	9	11,264
	Total	11	12,481	10	11,579
Brazilian	Sailing vessels	89	5,516	71	3,892
	Steamers	303	50,121	249	43,682
	Total	392	55,637	320	47,574
Bolivian	Sailing vessels	11	476	.....	.....
	Steamers	.....	.....	.....	.....
	Total	11	476	.....	.....
Danish	Sailing vessels	9	3,706	4	896
	Steamers	1	958	.....	.....
	Total	10	4,664	4	896
Spanish	Sailing vessels	51	17,300	70	15,969
	Steamers	44	21,072	14	24,152
	Total	95	38,372	84	40,121
French	Sailing vessels	10	2,935	11	3,026
	Steamers	253	319,607	235	279,790
	Total	263	322,542	246	282,816
Dutch	Sailing vessels	19	3,800	6	1,099
	Steamers	.....	.....	.....	.....
	Total	19	3,800	6	1,099

Arrivals and departures according to flag—Continued.

Flag.	Kind of vessel.	Arrivals.		Departures.	
		Number.	Tonnage.	Number.	Tonnage.
English	Sailing vessels	306	173, 596	245	143, 375
	Steamers	965	471, 254	922	467, 132
	Total	1, 271	644, 750	1, 167	610, 507
Italian	Sailing vessels	281	110, 405	224	112, 456
	Steamers	45	57, 357	66	59, 064
	Total	326	167, 762	290	171, 520
Argentine	Sailing vessels	1, 634	76, 902	842	34, 614
	Steamers	1, 354	261, 176	1, 063	205, 342
	Total	2, 988	338, 078	1, 905	239, 956
United States	Sailing vessels	70	35, 922	66	36, 456
	Steamers	6	1, 365	10	2, 569
	Total	76	37, 287	76	39, 025
Norwegian	Sailing vessels	17	5, 549	13	5, 082
	Steamers	.....	.....	.....	.....
	Total	17	5, 549	13	5, 082
Paraguayan	Sailing vessels	56	2, 882	39	1, 258
	Steamers	78	8, 913	65	8, 119
	Total	134	11, 795	104	9, 377
Portuguese	Sailing vessels	4	1, 580	13	2, 598
	Steamers	.....	.....	.....	.....
	Total	4	1, 580	13	2, 598
Swedish	Sailing vessels	11	3, 124	13	5, 233
	Steamers	.....	.....	.....	.....
	Total	11	3, 124	13	5, 233
Uruguayan	Sailing vessels	748	29, 238	539	19, 110
	Steamers	481	102, 752	453	85, 473
	Total	1, 229	131, 990	992	104, 583

ARRIVALS FROM AND DEPARTURES TO EACH NATION.

The following table gives the arrivals from and departures to each nation during the year 1883:

To and from—	Kind of vessels.	Arrivals.		Departures.	
		No.	Tonnage.	No.	Tonnage.
Germany	Sailing vessels	54	19, 279	3	1, 618
	Steamers	77	121, 419	72	110, 284
	Total	131	140, 698	75	111, 902
West Indies	Sailing vessels	5	1, 947	83	32, 697
	Steamers	7	5, 381	2	2, 122
	Total	12	7, 328	85	34, 819
Belgium	Sailing vessels	12	4, 473	15	12, 625
	Steamers	32	37, 353	61	81, 179
	Total	44	41, 826	76	93, 804

To and from—	Kind of vessels.	Arrivals.		Departures.	
		No.	Tonnage.	No.	Tonnage.
Brazil	Sailing vessels	111	12,332	180	52,227
	Steamers	205	37,966	170	44,139
	Total	316	50,298	350	96,366
Canada	Sailing vessels	10	6,278	1	986
	Steamers	.....	.....	.....	.....
	Total	10	6,278	1	986
Chili	Sailing vessels	3	1,200	113	61,503
	Steamers	1	1,100	6	5,606
	Total	4	2,300	119	67,189
Spain	Sailing vessels	106	46,202	26	11,960
	Steamers	14	20,670	10	13,480
	Total	120	66,872	36	25,440
United States	Sailing vessels	191	75,415	51	34,995
	Steamers	4	3,942	15	18,548
	Total	195	79,357	66	53,543
France	Sailing vessels	61	22,835	45	17,842
	Steamers	118	186,488	168	268,074
	Total	179	209,423	213	285,916
India	Sailing vessels	.....	.....	11	11,101
	Steamers	.....	.....	.....	.....
	Total	.....	.....	11	11,101
Italy	Sailing vessels	26	11,017	4	1,658
	Steamers	70	102,331	40	52,310
	Total	96	113,348	44	53,968
Norway	Sailing vessels	1	318	1	1,090
	Steamers	.....	.....	.....	.....
	Total	1	318	1	1,090
Paraguay	Sailing vessels	252	13,791	207	11,040
	Steamers	675	149,288	586	116,378
	Total	927	163,079	793	127,418
Holland	Sailing vessels	3	1,266	2	827
	Steamers	1	1,108	.....	.....
	Total	4	2,374	2	827
Portugal	Sailing vessels	.....	.....	1	166
	Steamers	2	1,451	1	885
	Total	2	1,451	2	1,051
Great Britain	Sailing vessels	365	180,625	198	84,740
	Steamers	226	307,028	152	204,113
	Total	591	487,653	350	288,853
Uruguay	Sailing vessels	2,245	119,992	1,319	85,299
	Steamers	2,194	461,493	1,889	401,003
	Total	4,439	581,485	3,208	486,302
Venezuela	Sailing vessels	.....	.....	3	1,741
	Steamers	.....	.....	.....	.....
	Total	.....	.....	3	1,741

It is not necessary to furnish the tables showing the foreign shipping of each port in the Argentine Republic, but I would state that 56 per cent. of the entire foreign navigation for 1883 belonged to Buenos Ayres, 14 per cent. to Rosario, 5 per cent. to Concordia, 5 per cent. to San Nicolas, and 20 per cent. to the remaining ports of the Republic; total, 100 per cent.

From the first table given above, it will appear that 34 per cent. of the entire foreign shipping was under the English flag, 16 per cent. under the French flag, 15 per cent. under the Argentine flag, 9 per cent. under the Italian flag, 9 per cent. under the German flag, 2 per cent. under the United States flag, and 9 per cent. under other flags; total, 100 per cent.

From the second table given above, it will further appear that 29 per cent. of the foreign shipping of the Argentine Republic was with Uruguay, 21 per cent. with Great Britain, 13 per cent. with France, 8 per cent. with Paraguay, 7 per cent. with Germany, 5 per cent. with Italy, 4 per cent. with Belgium, 4 per cent. with the United States, and 9 per cent. with other nations; total, 100 per cent.

AMERICAN SHIPPING.

So far as the American shipping is concerned, it will be observed that it still stands far down in the list. The per cent. of American tonnage to Argentine ports remains exactly where it was the year previous. The amount of shipping, however, between the United States and the Argentine Republic is 2 per cent. larger than in 1882. This increase, however, is all in favor of foreign bottoms, the carrying trade to and from our home ports every year appearing to be more decidedly slipping from our hands. I have in former reports so fully discussed the causes of this decline that it is not necessary to allude to it again at the present time.

With the port of Buenos Ayres there has recently been some little increase in the number of arrivals of vessels under the American flag, but it is owing, in great part, to the suddenly increased demand for American lumber. The number of entries of American ships at this consulate in 1883 was 59, against 46 in 1882. I would state, however, that thus far for 1884 (nine months) the number of American vessels entered here has been 74, with a large fleet still on the passage out.

What is the prospect of an American line of steamers from the United States to this port? This is the question which has been asked every year since I have been stationed as consul at this port; and the realization of this cherished scheme, so vitally important for the development and increase of our trade and trade relations with this country, seems to be as remote now as it ever has been. I may add, however, that great expectations have been raised here by the announcement that our Government has just appointed three commissioners to proceed to the various countries of South America for the purpose of investigating and reporting on the best modes of securing more intimate international and commercial relations between them and the United States. There is no doubt that this Government, as well as the people, are ready to meet us half way in devising and carrying out methods which will place, not only our trade, but our political, economical, and social relations upon a basis which will bring the Argentine Republic and the United States closer together.

E. L. BAKER,
Consul.

UNITED STATES CONSULATE,
Buenos Ayres, September 30, 1884.

CEREAL PRODUCTION OF RUSSIA.

*REPORT BY CONSUL-GENERAL STANTON, OF ST. PETERSBURG.**

The first number of a statistical work, published under the auspices of the Russian Department of Agriculture, contains interesting data relative to the quantity of grain sown and harvested in this country, which, in abbreviated forms, are given in the following pages.

RYE.

The quantity sown and reaped of this cereal, the most widespread and important in European Russia, is given in the following table:

Localities.	Seed sown (in chetverika).†		Harvest (in chetverts).*				How many fold reaped.	
			Inclusive seed sown.		Exclusive seed sown.			
	Estates.	Peasants.	Estates.	Peasants.	Estates.	Peasants.	Estates.	Peasants.
Blackearth districts:								
Steppes	4.2	4.2	5	4.2	4.2	4	9	8
Half Steppes	6.2	7	6.2	6.2	5.2	5.2	8	7.2
Western districts	7	7.2	7.1	7	6.1	6	8	7
Central districts	8	8	7	6.3	6	5.3	7	6.2
Volga and Kama districts	7	8.2	6.2	6	5.2	5	7.2	5.2
Ural districts	7.2	8	7	7	6	6	7.2	7
Transitional districts‡	7.2	8.1	6.1	5.2	5.1	4.3	6.3	5.2
Districts without Blackearth:								
Vistula governments	8	10	7.2	6	6.2	4.3	7.2	5
Lithuanian and White Russian districts	8	8.2	6	5	5	4	6	5
Pinsk Forest districts	7	7.3	4.3	4.2	4	3.2	5	4.2
White Russian forest districts	8.2	9.2	6	5	5	3.3	5.2	4.1
Baltic provinces	10	9.2	8	7	6.3	5.3	6.2	6
Vologda and Yaroslaff districts	8.2	10	7.2	6	6.2	4.3	7	5.2
Extreme northern districts	8.2	8.2	5	4.1	4	4.1	5	4

* One chetvert equals 5¾ bushels.
† One chetverik equals 2¾ pecks.
‡ Transitional districts are those lying between the Blackearth and the districts without Blackearth.

It will be seen from this table that the quantity of rye sown on one desiatine† fluctuates between 4½ and 11 chetveriks (3.1 and 7.2 bushels). In certain cases the fluctuation is from 2 to 16 chetveriks, so that the thickest sowing is eight times greater than the thinnest.

Like almost all other cereals, rye is less thickly sown in the Steppe districts—generally but 4 to 5 chetveriks per desiatine—the peasants here, contrary to their practice in the rest of European Russia, sowing less than the estate owners.

* NOTE BY THE DEPARTMENT.—In this valuable report the consul-general has not designated the year covered by the statistics therein. As it doubtless applies to 1882 or 1883, the figures may be taken as substantially representing the present agricultural production of Russia.

† One desiatine equals 2.86 acres.

Wherever, in the Blackearth district, the three-field system prevails, the farmer sows on the average from 7 to 8 chetveriks per desiatine. In the central governments the quantity sown is greater than in the eastern ones. The peasants sow closer than the estate owners, in some districts as much as 1½ chetverts, on the average about 9 chetveriks per desiatine.

In the northern half of the Empire, *i. e.*, in governments without Blackearth, grain is sown closer than in the south. On estates the average quantity sown is under 8 chetveriks, in forest and swamp districts of Pinsk, in Novgorod and Perm; otherwise the average is 8 chetveriks, and in Vitebsk 9. They sow the thickest in the Baltic provinces, 9½ to 10 chetveriks, and in the governments of Vladimir, Moscow, and Kaluga 10 to 11 chetveriks on the average per desiatine, the peasants generally sowing 1 to 1½ chetveriks more than the estate owners. In some districts the peasants sow as much as 14 chetveriks (about 4⅘ bushels) per desiatine.

The quantity of the harvest per desiatine depends not alone upon the excellence of the soil and other natural and agricultural conditions, but in a very important degree upon the quantity of seed sown.

Thus, for instance, in the Steppe governments, where the quantity of seed sown is small, the average harvest is less than that of a large portion of the governments without Blackearth.

The best crops—8 and more chetverts per desiatine (46 bushels and over per 2.86 acres)—are found in the Blackearth district, the southern portion of the government of Tamboff, and the northern districts of the governments of Kharkoff, Liublin, Courland, Liefland, and Yaroslaff. In the entire Blackearth district the average rye crop yields 7 chetverts per desiatine.

The governments surrounding Moscow, those of White Russia, and the Perm forest district, as also those governments with a half steppe character, yield more than 6 chetverts (34½ bushels) per desiatine, whilst the average yield of the remaining Blackearth and Steppe districts is from 4½ to 6 chetverts per desiatine.

The peasants' crops equal those of the landed proprietors only on the eastern and western slopes of the Ural Mountains, and generally range from one-half to 1 chetvert less per desiatine.

In comparing the average crops with the quantity sown, the southern governments, especially the Steppe districts, come to the front. The cause lies not in a high yield per desiatine, but solely in the small amount sown. The farmer of the temperate north gets from an equal area at least as much as the inhabitant of the Blackearth district, even after deducting the quantity sown; but the seed put in the earth in the south bears at least double that sown in the north.

The reputation for fertility enjoyed by the southern Blackearth districts is due to this fact.

In favorable seasons the crops of the south are in fact very great, but there are many years when the agriculturist does not even reap the quantity sown by him, so that the average is not only not better, but often worse than in those districts without Blackearth.

Localities.	Quantity sown (in chetveriks).		Harvest (in chetverts).				How many fold of sowing reaped.	
			Inclusive seed sown.		Exclusive seed sown.			
	Estates.	Peasants.	Estates.	Peasants.	Estates.	Peasants.	Estates.	Peasants.
Blackearth districts:								
Steppe districts	8	8	7	6.2	6	5.2	7	6.2
Half Steppe districts	11	11	9	8	7.2	6.3	6.2	6
Western districts	12	13	10.2	9.2	9	7.3	7	5.2
Central districts	14	16	9	8.2	7.1	6.2	5.1	4.2
Volga-Kama districts	13	15	8.2	8	7	6	5.1	4
Ural district	17	17	9.2	9.2	7.2	7.2	4.2	4.2
Transitional districts	14.2	15	8.1	7.2	6.3	6	5	4.2
Districts without Blackearth:								
Vistula governments	11	13	8.2	7	7.1	5.2	6.2	4.2
Lithuanian governments	13.2	14	7	6.1	5.1	4.1	4	3.1
White Russian governments	19	20	8.2	7.2	6	5	3.2	3
Novgorod-Finnish governments	20	24	9	7	6.2	4	3.2	2.2
Baltic governments	15	16	10	8.2	8	6.2	5	4.1
Manufacturing governments	20	24	9	8	6.2	5	3.2	3
Vologda and Yaroslaf governments	22	26	11	8.2	8.1	5.1	4	2.3
Viatka and Perm governments	16	21	9	8.2	7	5.3	4.2	3.1
Extreme northern governments	16	16	7	6.2	5	4.2	3.2	2.2

The quantity of oats sown to a desiatine (2.86 acres) is about double that of rye, the governments north of the Moscow district sowing the largest quantity per desiatine. On estates in this district the average amount of rye sown per desiatine is about 8½ chetveriks, that of oats from 20 to 22 chetveriks. The peasants of this district sow from 9½ to 10 chetveriks rye, and from 24 to 25 chetveriks oats per desiatine. In the Moscow district the peasants sow about 3 chetverts, and the estate owners 2½ chetverts oats per desiatine.

On the average both peasants and estate owners sow more than 2½ chetverts per desiatine in the governments of Moscow, Vladimir, Yaroslaf, Trev, Kostroma, Pskoff, Smolensk, Mohileff, Kaluga, and portions of Vologda, Novgorod, and St. Petersburg. The Baltic provinces and Vilebsk sow about 2 to 2½ chetverts. To the west and south of the above-named districts the amount sown is generally under 2 chetverts, and in the steppes of Bessarabia is hardly more than 7 chetveriks; in Samara but 6 per desiatine. The oat crop, with respect to quantity, has about the same geographical distribution as rye. The greatest average yield, *i. e.*, 10 and more chetveriks per desiatine, is obtained in a few districts of the western portion of the Blackearth country, and also in the Baltic provinces, the Vologda and Yaroslaf governments, and some parts of the Moscow Manufacturing districts. The smallest yield is found in the extreme north and south and in the Pinsk Forest district. In the Steppe district each kernel bears six or seven fold; in the north, however, but threefold. In the western half of European Russia, likewise, the percentage of grain reaped to that sown is greater than in the eastern and northeastern districts.

WINTER WHEAT.

This cereal is cultivated in large quantities only in the southwestern portions of the Empire and some of the central governments.

The quantity sown and reaped is given in the following table:

Localities.	Quantity sown (in chetverika).		Harvest (in chetverts).				How many fold of seed reaped.	
			Inclusive seed sown.		Exclusive seed sown.			
	Estates.	Peasants.	Estates.	Peasants.	Estates.	Peasants.	Estates.	Peasants.
Blackearth:								
Steppe districts	5	5	4.2	4	4	3.2	7	6.2
Half Steppe districts	6.2	6.2	6	6	5.1	5.1	7.2	7.2
Western districts	8	8	7.2	7	6.2	6	7.2	7
Central districts	7.2	8	6	6	5	5	6.2	6
Transitional districts	7.2	8.1	5.3	5.3	4.3	4.3	6.1	5.3
Districts without Blackearth:								
Polish governments	9	11	9	8	7.3	6.2	8	6
Lithuanian and White Russian governments	7.2	8	6.2	5.2	5.2	4.2	7	5.2
White Russian Forest governments	9	9	6	6	4.3	4.3	5.2	5.2
Novgorod and Finland governments	8	8.2	6	6	5	5	6	6
Moscow governments	9	11	6	5	5.1	3.2	5.1	3.2
Baltic provinces	8.2	8.2	8	7	6.3	5.3	7.2	6.2

The quantity of winter wheat sown is under that of rye, particularly in the Blackearth governments and the Transitional districts between the Blackearth and non-Blackearth sections. The greatest average crop—from 7 to 8 chetverts per desiatine—is obtained in the western portions of the Blackearth districts and in the Polish and Baltic governments. The smallest average crops—4 to 4½ chetverts—are found in the Steppe governments and the Pinsk district.

SUMMER WHEAT.

Whilst winter wheat predominates in the west over summer cereals, the latter rules in the eastern and southeastern Steppe, as also in the Half Steppe districts.

In the northern section of the Blackearth region, in the Moscow districts, and in those provinces lying north and east of this district, hardly any summer wheat is cultivated.

The amounts sown and reaped per desiatine are given in following table:

Localities.	Seed sown (in chetveriks.)		Harvest (chetverts).				How many fold the seed sown reaped.	
			Inclusive seed sown.		Exclusive seed sown.			
	Estates.	Peasants.	Estates.	Peasants.	Estates.	Peasants.	Estates.	Peasants.
Blackearth districts:								
Steppe districts	4.2	4.2	4.2	4	4	3.2	8	7
Half Steppe districts	6	6.2	4.2	4.2	3.3	3.3	6	5.2
Western districts	7.2	7.2	5.2	5	4.2	4	5.3	5.1
Central districts	8	8	5.2	4.2	4.2	3.2	5.2	4.2
Volga and Kama districts	7.2	8	5	4.2	4	3.2	5.1	4.2
Ural districts	8.2	9	7	7	6	5.3	6.2	6
Transitional districts	9.2	9	5	5	3.3	3.3	4.2	4.2
Districts without Blackearth:								
Lithuanian and White Russian districts	8	8	5	5	4	4	5	5
Pinsk Forest districts	7	7	4	4	3	3	4.2	4.2
White Russian Forest districts	9.2	9	5.2	5.2	4.2	4.2	5	5
Baltic provinces	10	10	7	6	5.3	4.3	5.2	5
Vologda and Yaroslaf districts	8	9	6	6	5	4.3	6	5.2
Viatka and Perm Forest districts	9	11	4.2	4.2	3.3	3	4	3.1

In the Blackearth district spring wheat is sown less, and in the districts without Blackearth, particularly in the western portion, it is sown more than winter wheat. The average amount sown per desiatine is in chetveriks (2¾ pecks) as follows:

Localities.	Estates.		Peasant lands.	
	Winter.	Summer.	Winter.	Summer.
Blackearth districts:				
Steppes	5	4.2	5	4.2
Half Steppes	6.2	6	6.2	6.2
Western districts	8	7.2	8	7.2
Non-Blackearth districts:				
Lithuanian and White Russian districts	7.2	8	8	8
Pinsk Forest district	6	7	7	7
White Russian Forest district	9	9.2	9	9
Baltic provinces	8	10	8	10

The highest average crop of spring wheat, viz, 6 to 7 chetverts (32.2 to 40.1 bushels) per desiatine is obtained in the Vologda-Yaroslaff district. Five to six chetverts are reaped per desiatine in the northern districts of Saratof, in Kief, the southern portions of Padolia-Tshernigoff, in Tamboff, and in various governments of the Blackearth district, as also in the Lithuanian and White Russian provinces. In the greatest portion of the Steppe and Half Steppe regions the crop fluctuates between 4 and 5 chetverts per desiatine. In proportion to the seed sown the best crops are obtained in the Steppe, then the Half Steppe, and the eastern portion of the Blackearth districts.

BARLEY.

Barley is one of the most widely cultivated cereals of European Russia. The southern part of the Moscow district and the central Blackearth governments are the only tracts where it is not cultivated.

According to the amount sown per desiatine, barley ranks between oats and rye.

The following table gives the amount sown and reaped per desiatine.

Localities.	Seed sown (in chetveriks).		Harvest (in chetverts).				How many fold reaped.	
			Inclusive seed sown.		Exclusive seed sown.			
	Estates.	Peasants.	Estates.	Peasants.	Estates.	Peasants.	Estates.	Peasants.
Blackearth districts:								
Steppe districts	6	5.2	6.2	6	5.3	5.1	3.2	3.2
Half Steppe districts	8	7.2	7	6	6	5	7	6.2
Western districts	8	8	7	6.2	6	5.2	7	6.2
Central districts	9	8	8	7	6.3	6	7	7
Volga-Kama districts	8	10	7	7	6	5.3	7	5.2
Ural districts	10	11	7.2	8	6.3	6.2	6	5
Transitional districts	8.1	9.1	7	6.1	5.1	5	6	5.1
Non-Blackearth districts:								
Polish governments	10	12	8.2	7	5.3	5.2	7	4.2
Lithuanian and White Russian districts	8	8	8	6	7	5	8	6
Pinsk Forest district	7.2	8	5.2	5	4.2	4	5.2	5
White Russian Forest district	9.2	9.2	6.2	6	5.1	4.3	5.2	5
Novgorod-Finland Forest district	9	10	8	6	6.3	4.3	7	5.2
Moscow Manufacturing districts	11	13	7.2	6	6	4.2	5.2	3.3
Baltic provinces	10	10.2	9	8	7.3	6.3	7	6.2
Vologda and Yaroslaf district	12	12	8	7	6.2	5.2	5.2	4.2
Viatka-Perm Forest districts	10	11	7	6	5.3	4.2	5.2	4.2
Extreme northern district	10	11	6	6	4.3	4.3	5	4.2

Throughout the entire district without Blackearth the amount of barley sown per desiatine is about 10 chetveriks, rising in portions of the governments of Moscow, Vladimir, Trev, Yaroslaf, Smolensk, Kaluga, and in Northeastern Russia to 12 and 14 chetveriks, and falling in the western non-Blackearth governments, especially in the vicinity of Pinsk, to 8 to 7 chetveriks on the average.

In the Steppe districts barley is more thinly sown than in other portions of the Empire. The crops obtained fluctuate between 6 to 7 chetverts per desiatine, and are highest, 8 to 9 chetverts, in the Polish, Baltic, and some of the White Russian governments, and lowest, 5 to 6 chetverts, in the swampy districts of Pinsk and some portions of the governments of Tshernigoff and Orel.

BUCKWHEAT.

Although the area, on the whole, planted with buckwheat is proportionately small, the cultivation of this cereal is very general throughout Russia. The most extensive fields are to be met with in the eastern part of the Blackearth districts and in the Transitional districts, and in some parts of the governments of Riasan and Tamboff takes the precedence of all other summer cereals.

The average quantity sown and reaped per desiatine is given in the following table:

Localities.	Seed sown (in chetveriks).		Harvest (in chetverts).				How many fold reaped.	
			Inclusive seed sown.		Exclusive seed sown.			
	Estates.	Peasants.	Estates.	Peasants.	Estates.	Peasants.	Estates.	Peasants.
Blackearth districts:								
Steppe districts	4	3.2	4	4	3.2	3.2	8	8
Half Steppe districts	6	6.2	7	5.2	6.2	4.3	9	7
Western districts	7	7	6	6	5	4	7	5.2
Central districts	7	7.2	6	5.2	5	4.2	7	5.3
Volga Kama	7	7.2	6.2	6	5.2	5	7.1	6.1
Transitional districts	7.2	7	5.2	5.1	4.2	4.1	5.3	5.3
Non-Blackearth districts:								
Vistula governments	7	9	8	7	7	5.3	8.2	6
Lithuanian and White Russian districts	5.2	5	4	3	3.2	2.2	6	4.3
Pinsk Forest districts	5.2	5.2	4	4	3.2	3.2	6	6
White Russia Forest district	9	9	4.2	6	3.1	4.3	4	5.2
Novgorod and Finnish district	7	9	5	4	4	2.3	5.2	3.2
Moscow Industrial district	9.2	11	6	5.2	4.3	4	5	4

The largest amount per desiatine is sown in the Moscow governments and the White Russian Forest district, where on the average 9 to 11 and not seldom 12 to 14 chetverts per desiatine are sown.

An average crop of from 7 and more chetverts is obtained in some districts of the Polish governments and in those of Ufa, Samara, Limbrisk, and Nishni-Novgorod. Generally the yield of buckwheat decreases in the direction of east to west, attaining its minimum in the forest district of Novgorod and Pinsk, and increasing greatly in the Vistula governments.

PEAS.

Peas are cultivated almost everywhere, but, as compared with other plants, in a still smaller degree than buckwheat. The quantity sown and reaped is given in the following table:

Localities.	Seed sown (in chetveriks).		Harvest (in chetverts).				How many fold reaped.	
			Inclusive seed sown.		Exclusive seed sown.			
	Estates.	Peasants.	Estates.	Peasants.	Estates.	Peasants.	Estates.	Peasants.
Blackearth districts:								
Steppes	3.2	3.2	4.2	4	4	3.2	10	9
Half Steppes	6	6	5	5.2	4.2	5	6.2	7
Western districts	6.2	7	7	6	6.2	5.1	8.2	7
Central districts	6.2	6.2	5.2	5	4.3	4.1	7	6.2
Volga-Kama districts	6.2	7	5.2	7	4.3	6	7	8
Transitional districts	6.1	6.3	4.3	4.3	4.2	3.3	6.1	5.2
Non-Blackearth districts:								
Polish governments	8.2	9	7	6	6	4.3	6.2	5.2
Lithuanian and White Russian districts	7	8	5	5	4.1	4	5.2	5
Pinsk Forest districts	6.2	7	5	5	4.2	4	5.3	5.2
White Russian Forest districts	8	9	5.2	5	4.2	3.3	5.2	4.2
Moscow Industrial districts	9	9	7.2	5.2	6.1	4.4	6.2	5
Baltic provinces	9	9	6.2	6	5.1	4.3	6	5.2
Vologda and Yaroslaff districts	8	9	5	6	4	4.3	5	5.2
Viatka-Perm Forest districts	8	8	5	4	4	5	5	4
Extreme northern districts	7.2	7.2	6	4.2	5	3.2	6	4.2

In the non-Blackearth districts the amount sown per desiatine is generally 8 to 9 chetveriks; in the Transitional districts and Blackearth districts mostly 6 to 7, and in the Steppes but 3½ chetveriks, or about one-third of the quantity sown, for instance, in the Baltic provinces. The gross crops are larger in the northern than in the southern half of Russia; but deducting the quantity sown the yield is everywhere, with but few exceptions, from 4 to 5 chetverts per desiatine. In the southern half of the Empire each seed sown yields more than when sown in the northern half, and in the Steppe districts nearly double that of the extreme north.

MILLET.

Millet may be termed a grain of the Blackearth district. It is seldom met with either in the Transitional or non-Blackearth districts, Poland, and the governments of Minsk and Mohileff excepted. On the average the quantity sown per desiatine is as follows:

Localities.	Seed sown (in chetveriks).		Gross yield (in chetverts).	
	Estates.	Peasants.	Estates.	Peasants.
Blackearth:				
Steppe	1	1	7	6
Half Steppe	1.2	2	5.2	5
Western districts	2.2	2	6.2	4.2
Central districts	2	2	6.2	4.2
Volga and Kama districts	1.2	1.2	5.2	6
Transitional districts:				
Western	1.2	2	5.2	5
Tschernigoff and Orel districts	1.2	1.2	5.2	4.2
Central districts	2	1.2	6	6

There is not much difference, on the whole, either in the amount sown or reaped, although in individual instances the variation is great, fluctuating between ½ and 4 chetveriks seed sown, and 2 to 30 chetverts reaped per desiatine.

The average crop for whole provinces and a long series of years does not exceed 7½ chetverts, and fluctuates generally between 5 and 6 chetverts per desiatine. Millet thrives best in the Steppes and central governments, and yields the poorest crops in the western portion of the Blackearth districts and the Transitional districts.

MAIZE.

Of all the cereals grown in Russia, maize is the least extensively cultivated. It is sown in fields only in the Steppe, Half Steppe, and the western portions of the Blackearth regions; in the governments of Bessarabia, Podolia, and Kherson, more largely, and less in Yekaterinoslav, Taurida, Voronesh, Poltava, Karkoff, Keif, and the Don Cossack districts, and but seldom in Samara and Saratoff. The average amount sown per desiatine is from 1½ to 2 chetveriks, the crops harvested 7, 8, and 10 chetverts.

POTATOES.

The cultivation of the potato in fields is carried on to a great extent throughout the Empire, except in the Steppes and the extreme east. The Baltic provinces, Lithuanian and Polish governments, the Pinsk and White Russian districts, take the foremost rank, although the cultivation of the potato, both for food and distilling purposes, has been latterly greatly extended in the western and central Blackearth governments and those of the Moscow Industrial region.

The quantity sown and reaped per desiatine is given in the following table:

Localities.	Chetverts planted.		Chetverts harvested.				How many fold reaped.	
			Inclusive amount planted.		Exclusive amount planted.			
	Estates.	Peasants.	Estates.	Peasants.	Estates.	Peasants.	Estates.	Peasants.
Blackearth districts:								
Steppes	4	4	25	20	20	17	6	5
Half Steppes	7	7.2	45	40	38	33	6.2	5.2
Western districts	6	6	44	36	38	30	7.2	6
Central districts	9	9	50	45	41	36	5.2	5
Volga-Kama districts	7.2	7	50	40	43	33	6.2	5.2
Transitional districts	7.3	8.1	51.2	46	44	37.3	6.1	5
Non-Blackearth districts:								
Polish governments	11	12	66	54	55	42	6	4.2
Lithuania-White Russian districts	10	10	46	47	36	37	4.2	4.2
Pinsk Forest districts	10	10	52	55	42	45	5	5.2
White Russian Forest districts	9	10	52	55	43	45	5.2	5.2
Novgovod and Finnish Forest districts	10	11	53	45	43	34	5.2	4
Moscow Industrial districts	9	9	50	45	41	36	5.2	5
Baltic provinces	12	12	72	60	60	48	6	5
Extreme northern districts	8	8	40	45	32	37	5	5.2

The quantity of potatoes planted per desiatine is about eight times that of rye. The greatest amount is planted in the Baltic provinces;

then follow the Polish governments, the governments of Pskof, Minsk, Vitebsk, St. Petersburg, and other western districts of Yaroslaff. Towards the south and east the quantity planted decreases gradually, and amounts in the Blackearth districts to 8 to 9 chetverts, and in the Steppes to but 4 chetverts per desiatine. The average crop amounts to about 50 chetverts per desiatine, or from five to six times the amount planted. The largest crops, 54 to 72 chetverts per desiatine, are obtained in the Baltic and Polish provinces, the minimum (20 to 25 chetverts) in the Steppes.

LINSEED (FLAX).

Flax is the most widely cultivated oleaginous and fibrous plant in Russia. In the Blackearth districts it is grown for its oil; in the districts without Blackearth for its fibers.

The following table gives, approximately, the amount sown and reaped per desiatine in poods (36 pounds):

Localities.	Amount planted.		Crop inclusive amount planted.		Crop of flax.	
	Estates.	Peasants.	Estates.	Peasants.	Estates.	Peasants.
Steppe districts	2	2	35	35	.....	.....
Half Steppe districts	3	3.2	40	37	.....	.....
Central Blackearth districts	6	6	40	36	15	17
Central Transitional districts	8.2	8.2	27	27	17	19
Lithuania-White Russian districts	6	6.2	26	25	15	15
Pink Forest districts	6.2	6	17	15	20	17
White Russian Forest districts	6	5.2	25	30	17	17
Moscow Industrial districts	7	8	30	30	16	17
Baltic provinces	9	9.2	21	20	20	23
Vologda-Yaroslaf districts	7.2	8.2	25	27	18	20
Viatka-Perm Forest districts	8	8	26	23	.....	.....

It will be seen from the foregoing that the amount sown in the Steppes is but one-third of that sown in Central Russia and the Baltic provinces. In other regions the amount sown ranges from 6 to 9 poods per desiatine. The seed crop in the Blackearth districts amounts to 35 to 40 poods; in non-Blackearth districts to 15 to 30 poods per desiatine. The fibers are made use of only in the northern portions of the Blackearth districts, and here from 15 to 20 poods per desiatine are obtained.

HEMP.

The following table gives approximately the amount sown and reaped of this plant per desiatine in poods:

Localities.	Seed sown.		Field of seed.		Field of fiber.	
	Estates.	Peasants.	Estates.	Peasants.	Estates.	Peasants.
Central portion of Half Steppes	7	8.2	40	40	.....	.....
Central portion of Blackearth districts	8	8	45	45	22	23
Tchirnigoff and Orel districts	7	6.2	48	48	20	20
White Russian forest districts	7	7.2	40	45	21	21

RAPE-SEED—SUMMER AND WINTER.

The culture of this oleaginous plant is mainly confined to the southern Steppe governments, Bessarabia, Kerson, and Taurida, the northern, central, and southwestern Blackearth governments, and Poland and Grodno.

The quantity sown per desiatine fluctuates for both varieties from one-half to 3½ poods; the average in almost all governments being one pood (36 pounds).

The average crop of summer rape is from 20 per cent. to 30 per cent. less than that of winter rape, the yield of the former being, according to locality, from 27 to 55, generally 40 poods; of the latter, from 35 to 85, generally 55 poods per desiatine. In particularly good years winter rape yields from 70 to 120, summer rape from 60 to 100 poods per desiatine. Rape-seed is cultivated almost exclusively by large land-owners.

SUNFLOWERS.

Sunflowers are cultivated extensively only in the district of the Don Cossacks and in the governments of Voronesh, Poltova, Karkoff, Kursk, Tamboff, Simbirsk, Samara, and Saratoff. The amount sown per desiatine varies between one-quarter and 2¼ poods, the average being generally three-fourths pood.

The average crop fluctuates between 40 and 65 poods, a good crop being from 65 to 165 poods per desiatine.

SUMMER RYE, SPELT, AND SORGO.

Summer rye is met with in almost all parts of European Russia although the area occupied by it is generally small. The quantity sown is from 3½ to 6 chetverts in the Blackearth and 6 to 10 chetverts in the non-Blackearth districts per desiatine.

Spelt is found only in the Blackearth districts, and from 6 to 16, ordinarily 10, chetverts are sown per desiatine.

Sorgo has only been cultivated the last few years. From 30 to 45 pounds are sown per desiatine when grown for grain, 60 to 75 pounds for besoms, and 6 to 12 pounds for sugar.

LEGUMINOUS PLANTS.

Lentils: Cultivated more in the southern than in the northern governments. In the Steppes from 3½ to 4 chetveriks, otherwise 6 to 8 chetveriks per desiatine are sown. *Vetch:* Grown mainly in the northern portions of the Blackearth district and the central Volga region. From 6 to 8 chetveriks are sown per desiatine. *Phasels:* Grown mostly exclusively in the southern Steppe and central Blackearth regions. From 3 to 4 chetveriks are sown per desiatine. *Broadbeans:* From 8 to 10 chetveriks are sown per desiatine. *Soja hispida:* From 1 to 2 poods are sown per desiatine. *Lathyrus:* 7 to 8 chetveriks are sown per desiatine.

OLEAGINOUS PLANTS.

Poppy is cultivated to a considerable extent in the governments of Kerson, Voronesh, Poltova, Kharkoff, Kief, Tshernigoff, Tamboff, Riasan, Pensa, Simbirsk, and Sarakoff. From 7 to 12 poods are sown per desiatine. *Mustard* is grown in Taurida, ¾ chetverik, and Samara, 1½

poods being sown per desiatine. *Lallemantia iberica* is cultivated in Yekaterinoslaff and Tshernigoff. About 2 chetveriks are sown per desiatine.

SUGAR-BEET ROOTS.

In Kief, Podolia, Volhynia, and Kharkoff 2 poods are sown on the average, and in Voronesh, Poltava, Kursk, Tamboff, and Tshernigoff 1 to 1½ poods per desiatine.

TOBACCO.

The quantity sown varies greatly. In order to procure the necessary number of slips for a desiatine there is sown in Bessarabia and Kherson 1 pood; Yekaterinoslaff, 3 to 6 pounds; Voronesh, 10 to 12 pounds; Poltava, 2 to 15 pounds; Tshernigoff, ¼ to 8 pounds, and in Orel, Riasan, and Sarakoff, 5 pounds of seed.

FODDER PLANTS.

Clover: Of red clover, 1 pood is sown per desiatine, on the average, and not quite so much of Swedish clover (*Trifolium hybridum*). *Lucerne:* From 1½ to 2 poods are sown per desiatine. *Esparsette* (*Sain foin*): On the average 8 poods are sown per desiatine. *Vetch:* From 9 to 12 chetveriks are sown. *Lupine:* From 7 to 8 poods are sown. *Mustard:* 1½ poods are sown. *Timothy:* From 30 to 60 pounds are sown. *Moha:* From 1 to 3 poods are sown. *Corn:* From 1½ to 2 poods are sown. *Turnips:* From ½ to 1 pood is sown. *Carrots:* From 6 to 20 pounds are sown.

CIRCUMSTANCES DETERMINING THE DENSITY OF THE SEED SOWN.

It will be seen from the foregoing how much the quantity of seed sown varies, according to the locality and the kind of plant cultivated. With reference to quantity and weight oats are most closely sown, 4 to 5 chetverts or 20 to 25 poods per desiatine. The least seed is necessary for the small-kernel oleaginous plants and tobacco. For the latter from 1 to 2 pounds per desiatine are sufficient, or, according to weight, 1,000 times, and to quantity 1,250 times less than oats.

All other plants fall between these two extremes, the size of the individual kernel and the distance the plants are from each other determining the amount to be sown.

The main causes of a difference in the quantity sown are briefly summed up in the following:

(1.) *The manner of sowing.*—It makes a great difference in the quantity per desiatine whether the seed is sown broadcast or drilled. The latter method demands much less seed, and still less is necessary when the plant is sown in hills. There is also a difference whether the seed is sown by hand or machine.

Drilling is most employed in the Blackearth districts and in Poland. It would appear from data forwarded to the Agricultural Department that there is a saving of from 20 to 50 per cent. in drill, as compared with broadcast sowing.

(2.) *The preparation of the soil.*—The better the preparation of the soil the freer from weeds, and the better manured, the smaller the amount of seed necessary. In Taurida 7 chetveriks of barley are necessary per desiatine when sown directly on the stubble-field, and but 5 to 6 when the

field has been plowed. Virgin steppe land demands also less seed than fields which have been planted before.

(3.) *The fertility of the seed.*—This is also an element which determines more or less the amount of seed to be sown.

(4.) *The time of sowing.*—This makes also a difference, late or tardy sowing demanding more seed per desiatine than when seasonably performed.

(5.) *The variety of seed.*—This has also an effect upon the amount sown, many kinds of rye effecting a saving of from one-third to 3 chetveriks per desiatine over the common varieties.

Of wheat the so-called hard varieties are less thickly sown than the softer ones, and the same may be said of oats, barley, peas, millet, flax, potatoes, &c., viz, different varieties demand different amounts of seed.

In conclusion, a few words in explanation of the greater amount of seed used by the peasants as compared with landed proprietors.

The causes may be briefly summed up in the following four headings:

(1.) The peasants' fields are not so well prepared, less manured, and often full of weeds.

(2.) The seed is of inferior quality, neither well assorted nor carefully cleansed, and is often overheated in the drying-sheds, whereby a certain percentage of the kernels is destroyed.

(3.) The peasants' fields are small parcels separated from each other by ditches and banks, in which much seed is lost.

(4.) The peasants are often behindhand in sowing, which necessitates a larger amount of seed per desiatine.

EDGAR STANTON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
St. Petersburg, October 30, 1884.

FRUIT CULTURE IN THE ALPS MARITIME.

REPORT BY CONSUL WILSON, OF NICE.

The Alps, projected southwards from Lake Geneva, come to an abrupt termination at the Mediterranean Sea, in the department of the Alps Maritime. On the one side high mountains, on the other deep water. The mountains are seamed with small rivers, and their banks and the seacoast proper are fringed with narrow valleys, which, with the sometimes sloping hillsides, are the only agricultural lands in the region.

These mountains shelter the valleys from the cold north winds of the Alps, while the sea tempers the sultry south winds of the Great Sahara, producing a soft and equable climate, which the fashionable world has declared to be the most delicious in all Europe.

In the public gardens, and in many private ones, too, the palm trees, the cocoa, the cacti, and the aloe flourish. Flowers bloom in banks of loveliness of color and fragrance on either side of the highways; hedges of rose trees and geraniums guard the orchards of orange and lemon trees, which, bearing both fruit and blossom, make for them a ceaseless round of seed-time and harvest, while violets and jessamine are as plenty as dog daisies on a village common. I saw the other day a heap of violets which had just been brought to the mill, and were on the floor

a pile 20 feet across. They were to be ground up and their fragrance transmitted into the essences and pomades of commerce.

I visited this winter the gardens of the enthusiastic amateur, Monsieur Doquin, at Cannes, covering near 20 acres. They were filled with all sorts of tropical fruits, growing at all seasons in the open air. He has no plant under glass, yet on my way home I saw plainly, in the near neighborhood, the snow-covered mountains. This, with the fact that Nice is in about the same latitude as Portland, Me., was to me a matter of astonishment, and would afford thought and study for the meteorologist.

CLIMATE.

During the thirty years from 1849 to 1878, inclusive, the wind blew at Nice as follows:

	Days.
Feeble or moderate	7,372
More or less strong	2,397
Calm	608

Averages and extremes of temperature at Nice during thirty years, from 1849 to 1878 (thermometer centigrade).

Month.	Temperature during the day.					
	Daily average.	Highest temperature.		Lowest temperature.		Number of times over 30°
		Day.	Year.	Day.	Year.	
	°	°		°		
December	11.69	18.5	1872	1.1	1867	.....
January	11.19	19.2	1855	3.0	1862	.....
February	12.36	18.9	1866	3.2	1854	.....
March	14.33	21.4	1871	5.2	1860	.....
April	17.74	27.8	1871	7.0	1849	.....
May	21.83	29.6	1870	8.7	1861	.....
June	24.58	31.6	1877	17.4	1855	15
July	27.47	33.7	1865	20.7	1851	144
August	26.90	33.2	1869	19.2	1857	99
September	23.83	33.9	1853	17.2	1852	6
October	19.85	31.2	1870	11.0	1869	1
November	14.86	23.7	1849	4.2	1851	.....

Month.	Temperature during the night.					
	Daily average.	Highest temperature		Lowest temperature.		Number of times below zero.
		Night.	Year.	Night.	Year.	
	°	°		°		
December	5.15	14.8	1852	−2.7	1870	28
January	4.59	15.5	1854	−3.0	1862	34
February	5.13	13.5	1867	−3.5	1861	27
March	6.52	13.3	1871	−0.6	1860	5
April	9.50	17.8	1865	+2.9	1869	.....
May	13.32	21.3	1852	+4.6	1870	.....
June	17.24	25.0	1868	+6.5	1871	.....
July	18.73	26.2	1859	15.0	1878	.....
August	18.97	26.0	1859	12.3	1876	.....
September	16.59	22.6	1856	10.4	1876	.....
October	12.79	18.9	1873	2.6	1869	.....
November	7.96	18.0	1859	−1.5	1858	1

The differences between these extremes are as follows: Between the annual averages 31°.60; between the *greatest* extremes in one year, 1859, 35°.5; between the *least* in one year 27°.0, 1850; between greatest extremes in the 30 years, 37°.2; highest 33°.7, July 10, 1865; lowest 3°.5, February 8, 1864.

The average number of rainy days in Nice in each year is 64.4. The most rainy year, 1853, gave 103; the least, 1871, 45 days.

This average divides itself among the seasons thus: Winter, 16.1; spring, 19; summer, 9.3; autumn, 19.8.

The average rainfall for ten years (1870–'79) was 796.4^{mm}. The maximum (1872) was 1,383.9^{mm}; the minimum, 452.9^{mm} (1875). The most *frequent* rains come from the east and the southwest, but the *hardest* rains come from the northeast and the south. Scarcely any rain comes from the north or northwest.

SOIL AND AGRICULTURE.

The country has generally a gravelly limestone soil. Agriculture is difficult and comparatively insignificant. The farmer has a continuous struggle with nature for a living; but then it is not what we have that makes us happy, but what we need, and, happily for him, his needs are small.

The ground is solid and difficult to dig. It lies usually or frequently in narrow terraces on the mountain side, each one supported by the rough stones piled up perpendicularly and forming the lower side of the terrace, giving to the whole affair the appearance of an extensive stair-case, up which a giant might climb the mountain. The *tread* of the steps is the space devoted to agriculture. True, they cultivate the valley below, but it is also divided into small patches, surrounded by high stone walls, with espaliers (trellises) covered with roses, geraniums, &c., and sometimes peaches or grapes. In all this there is small chance for a plow, first, from the small and irregular shapes, and second, from the groves and trees of lemons, oranges, olives, and figs, which occupy the ground, and spread their roots in every direction. The most of the work of turning up the earth preparatory to planting must be done with the spade. It is hard labor, and shows its effects in the dwarfed and early-bowed forms and the browned and grizzled faces one sees in the market places.

On the mountains and high up their sides one can find numberless opportunities for, and illustrations of, geology, mineralogy, and sometimes archæology, but not of agriculture. Rocks and stones here abound, but, except for the ass and goat, there is scarcely enough vegetation to support animal life.

The culture of flowers is fast becoming the more serious and remunerative occupation. They are used for the essences and pomades of commerce. Extensive establishments for these purposes abound throughout the neighborhood.

The principal food of the peasant is the *fêve de marais*, a sort of bean (frequently made with other vegetables into soup), vegetables dressed into salad, and black bread made of flour compounded of wheat and rye, or wheat and oats. Their drink is the common wine of the country.

THE OLIVE AND ITS OIL.

The olive tree is of the highest antiquity. It appears on the earliest page of written history in the leaf which the dove brought to Noah in the ark as evidence of the receding waters.

It held the highest rank in the ancient mythology. Minerva taught

the Athenians its uses. The peoples of antiquity held it in great respect, and used its oil in their various religious ceremonies. It was at once the emblem of holiness and peace. The Romans refused to burn the wood, even on their altars.

The olive was brought from Egypt to Greece, and from thence spread over the countries where it is now grown.

It flourishes best in the basin of the Mediterranean Sea, between 35° and 43° north latitude, though this, as I have stated, will, owing to the difference of temperature on the same parallel, be but an uncertain guide in the United States. The oil produced on the African shore of the Mediterranean is inferior to that of the north shore.

Some of the islands of the Grecian Archipelago and the Adriatic produce fine oil, but the center, both for quantity and quality, so far at least as concerns commerce, is at Nice and the surrounding country. From St. Tropez to Savone generally, but chiefly from the Var to the Roya, from Cannes to Vintemille, the best oil is produced.

Here the trees have been indigenous since before the Christian era, and here they grow to the largest size and the greatest age. One at Beaulieu, in full vigor and bearing, is 22 feet in circumference and is supposed to be 700 or more years old.

The slower the fruit ripens the better oil it makes, but as it must be fully ripe and entirely free from blemish to make the choicest oil, and as it requires two years to come to perfection (the crop is only biennial), one can easily comprehend the dangers of climate, season, malady, and accident which must be avoided and the difficulties which must be overcome in order to obtain final success.

To accomplish this with a plant so tender requires a climate and situation of peculiar adaptation, and unless that is secured any attempt at its cultivation will be fruitless. The fruit freezes at 23° F. and the tree at 16°. Once frozen, no remedy exists; the tree is destroyed and must be cut down.

It speaks volumes for the climate of this region to say that the olive trees have here grown successfully for the centuries I have indicated.

If the weather be too warm and the land too rich the fruit ripens too fast and its good taste is gone. If, on the other hand, it should become too cold, fruit and tree are both destroyed. Possibly I can do no better than answer the question propounded in the circular to which this is a response.

VARIETIES OF OLIVE TREES.

What varieties of trees produce the best results and at what age?

There are sixteen or seventeen different kinds, each with its botanical name, which have been grown in this region, but nearly all as exotics. The tree in common use is the European olive, and all the information given concerns this. It gives the best oil.

FRUIT-BEARING AGE.

The tree begins to bear fruit at ten years of age, but it does not come to maturity until from thirty to fifty years.

For the olives of commerce—that is, to eat, either fresh or pickled—the young tree produces the best result; the mature trees produce the best oil.

MODES OF PLANTING AND CULTIVATION.

What is the process of planting and cultivation?

The reproduction of the olive tree may be accomplished by all the modes known for trees. The best mode—planting the seed or pit—is

practiced here the least. The people prefer planting the sprouts which come up from the roots of the tree, or which may be artificially made by bending a twig and covering it with earth until it has taken root. At the age of two years this stock may be grafted, or the operation is more like that of "budding." The graft is cut all on one side and introduced under the bark, then bound up in moist earth and allowed to grow. The stock above the graft is cut off.

The earth around and between the trees is tilled each year, and a crop, sometimes of wheat or beans alternately, planted in the spring and gathered in the autumn. The earth is manured every two years and the trees are pruned every four years.

THE BEST TREES.

What variety of tree produces the best olives of commerce? Are they the selected fruit of the common olive, or a superior variety grown from an improved tree?

It is the same tree and the same fruit for oil as for commerce. But the best olives for commerce grow on the young trees; they are larger and plumper, and by selecting the fruit they obtain the finest quality, which are then preserved for commerce. There is a species grown at Nice for which is claimed a superiority of taste and fragrance. It is distinguished by a small black spot on the blossom end of the fruit. These olives are eaten in the country when ripe, are semi-dried and slightly seasoned with salt.

TIME OF FRUIT GATHERING.

At what age do the trees come to full bearing, and how long do they remain fruitful?

The trees begin to bear at ten years of age, but they do not reach their full capability or maturity until from thirty to fifty years. They continue fruitful for two and a half or three centuries. This is for grafted fruit. The wild olive lives and bears until twice that age. In Provence and other countries not so well adapted to them, they commence earlier and also die earlier. The trees are smaller and the fruit can be picked by hand. There the crop is annual, the harvest being in November and December, while in Nice and surrounding country the harvest is biennial. Here the blossom or flower comes in April or May, and the first fruit, consisting of the smaller and inferior, is gathered in November and December, the better in January and February and March, while the best (for oil) is the last, in April and May. It produces the best oil when it ripens slowly, and in some exceptionally good years the harvest is continued into June and even July. The tree then recuperates until the following spring, when it flowers again. An olive tree, even here, would bear a crop each year if so permitted, but the "whipping" necessary to gather in the fruit destroys the blossoms, which do not come again until the next spring.

HOW THE TREES ARE PLANTED.

At what distance apart are the trees planted; how many to the acre?

From 10 to 15 yards each way. The larger trees require larger space and the larger the space allowed the larger the trees produced. The trees need sun and air, and if crowded it will be to their detriment. This would permit, if I have figured aright, 40 to 50 trees to one acre.

But they do not calculate by the acre, for the trees are planted on the hill-side, usually on made terraces impossible to plow, cultivated with the spade, and it is difficult to get an acre of olive trees together. In poorer soil and on the hill-side the trees may be a lesser distance apart, even reducing it 6 or 8 yards.

OLIVE YIELD.

What is the average yield of mature trees in fruit; in oil; and how much or in what proportion does the fruit produce the oil?

The difference between olive trees in their product is as great as between apple trees. But the average production, per tree, biennially, may be stated thus: In fruit, from 60 to 120 liters; in oil, from 8 to 12 kilograms, or 12 to 18 liters.

The production of oil from the fruit is about as one to five; *i. e.*, some five liters of the best olives will make one liter of oil; though in many cases it takes seven liters of olives to make one liter of oil.

PICKLED OLIVES.

The prepared olives of commerce come from Marseilles and farther around the coast. They are outside my district, and my information might not be reliable, therefore I shall not attempt it. Olives for the table at Nice are usually eaten ripe and fresh. Sometimes they may be pickled green and preserved in salt or brine, but this is all for the local use and does not enter into commerce.

OLIVES FOR OIL.

When and how are they picked, and what is the process of extracting the oil?

I have already indicated that the harvest was only biennial, that it commenced in November and lasted until May, or even (as in this year) until June. The fruit is gathered when ripe, or, what is better, just before it becomes fully so. When ripe it is apt to become damaged by decay and by attracting bad tastes. For these reasons it cannot be allowed to remain on the tree until it falls from its ripeness. The tree is too slight and frail to be climbed, and so a sheet being spread on the ground to receive the fruit, it is whipped off with long switches.

The harvest is divided into three periods, of about two months each.

The first, November and December, produces the *oil ordinaire*. This is greenish in color. It is used as food by the common people, while the inferior quality may be used for lubricating purposes.

The second period, January and February, produces *oil fine*, straw color, and is the oil of commerce.

The third period lasts from March to the close and produces the oil *sur fine* or *sur choix*, which is the very best, with only a tinge of yellow in it.

MANUFACTURE OF THE OIL.

The olives gathered in either of these periods are taken to the mill, where they are ground to pulp; and then put under the press by which the oil is extracted and the fruit and seed left a dry mass.

The mill consists of a stone about the size and shape of the common millstone, but stood on edge, is made to thus revolve on its axis around a given center by means of a long wooden arm operated by horse or

man power, its weight being on its perimeter, inside a large tub of stone (mason work) with a stone bottom. Into this tub the olives are thrown and the revolving stone crushes them in its path.

Much care and experience is required for all these operations. The olives must be in proper condition; they must have no bruises or decayed places, no unnatural or improper taint or taste; the weight of the millstone must be such as that the fruit shall be macerated but the stone or pit not broken, for the kernel gives the oil a bitter taste.

The ground pulp is put into a sort of sack or open-work basket, and four or five of these are placed under the press. The oil thus extracted is the best quality for that period. Afterwards a second quality is obtained by soaking the residuum with hot water. The operation of grinding and pressing may follow immediately the gathering, but if the fruit is dry and in good order it will keep for eight or ten days if spread out in a dry place to a depth of 2 or 3 inches, and not disturbed.

HOW BEST RESULTS ARE OBTAINED.

Are best results obtained on valley, hillside, or table-land?

On hillside. Not only is the fruit better and more abundant, but it makes finer oil.

SUITABLE SOIL.

What character of soil is best adapted to olive trees?

A limestone soil; marl and clay or any soil wet and cold are not good. It will flourish in almost any kind of soil light and dry. A light limestone, gravelly soil is its delight.

IRRIGATION.

None is needed here for the olive.

SITUATION OF ORCHARDS.

How near to the coast are the olive orchards?

If on the plain, half a mile distant; if on the hillside and protected from the cold winds, they grow and flourish within 20 yards of the sea.

DISEASES.

To what maladies are the olives subject?

The principal ones are the cairon, a small worm (*Musca oleæ*), and the morphea, an almost imperceptible bug (*Cirnea barbanus*).

The slow ripening indispensable to the production of the best fruit causes sometimes a fermentation, by which is engendered the small worm, cairon. It attacks only the fruit, and gives a bad taste. Its effect is felt most serious in the next harvest, and thus is produced the succession of good and bad harvests.

The morphia, on the other hand, attacks the tree, and its evil effects are greater, paralyzing the vegetation, rendering the tree fruitless, and frequently causing its death. It flourishes in damp seasons and places, and propagates itself with an astonishing rapidity. It operates by spinning or weaving a sort of web, resembling in some degree that of a spider. This, after a short-time, becomes black and dry and resolves itself into a powder which covers the leaves, flowers, and fruit; this

powder is corrosive in its effect, and deadens all with which it comes in contact. The insect flourishes on the olive, but the dust spreads and settles on everything; so a country thus infested presents the appearance of a field of death, the valley of the legendary upas tree. No cure has yet been employed with success. It runs its course, and of the trees the fittest only survive.

COSTS AND PROFITS.

The yield, the proceeds, and profit, and the cost of cultivation.

I have given the yield per tree per crop biennial: In fruit, 60 to 120 liters; in oil, 12 to 18 liters or 8 to 12 kilograms.

In average years, and at average prices, the fruit of a single tree will sell at the foot of the tree for, say, 8 francs; if rendered into oil it will bring, say, from 10 to 15 francs. According to quality the prices are, of olives, from 3.50 to 5 francs for 20 liters (a double decaliter); of oil, from 1 to 2.50 francs per liter. The average product of one tree, then, will be, biennially, in fruit, from 8 to 10 francs; in oil, from 10 to 15 francs.

The cost of cultivation is slight; manure every two years and pruning every four. The cost of harvesting is also slight; whip off the olives and gather them up. If this could be done and completed in one operation the cost would be much reduced. But the whole cost may be estimated at from 4 to 5 francs per tree biennially, 2 to 2½ francs annually. This applied to 40 or 50 trees will make the cost at from 80 to 100 francs per acre. Stretched out, as it is, over a long period of time, it cannot all be done by the peasant with his regular force, and is not, as in our American harvests, forced into a few weeks, requiring a large increase of help, and, consequently, of expense. So the profit on each tree may be estimated at 4 to 8 francs, or possibly 10, each two years. This would give from $20 to $40 per acre per year.

NO MORE OLIVE-TREE PLANTING.

I am informed, however, that the cultivation of olives is falling into desuetude.

Flowers pay better than fruit. Olive trees are not being cut down or destroyed for the purpose of changing, but when destroyed they are not again planted. The planting of olives here is to be likened to planting forest trees in the United States; and though by every method of figuring it would pay, yet the benefits are postponed for so long time that no one does it.

This is all made apparent when one considers that the olive does not arrive at maturity for thirty to fifty years, a longer period than the average life of the man who plants it, and that it does not even commence bearing until ten years old.

So the planting of an olive tree is, or may be, regarded as work done for posterity.

ORANGES AND LEMONS.

The orange flourishes better at Nice than at Mentone, but it is the reverse with the lemon. Mentone is slightly warmer and more sheltered.

VARIETIES AND VALUE.

At what age do they come into full bearing and how long do they remain fruitful?

There are the sweet and the sour or bitter oranges. They cultivate fourteen different varieties—*Le Portugal* or *Bergamotte*, *Le Chinois*, *Le Mandarin*. The lemon has also its varieties.

The sweet orange and the mandarin are the most esteemed and the most cultivated. They furnish the fruits for the market and for commerce.

The bitter orange is cultivated only for its seed, the essence, and the flower. It is not eaten. The tree begins to bear fruit in two or three years after the grafting, but it does not arrive at full maturity until ten years of age. They last for two or three hundred years.

PROPAGATION.

Are the trees seedlings, grafted, or budded?

All three practices prevail. The bitter orange is grown from the seed, and when it attains the thickness of 1 inch and the height of 5 or 6 feet it is grafted or budded with the sweet orange of whatever variety desired.

The same process, in effect, is pursued with the lemon trees.

MALADIES.

Frost, or freezing, is hardly to be called a malady, but it is equally fatal, and the tree requires care and protection against it.

The principal malady attacking the trees here is that called *La Mousse*. It seems to be a blight, but whether fungus or not I cannot say. It would seem to be produced (I don't know which is cause and which effect) by a superabundance of water in the trunk of the tree under the bark. The symptoms are that the tree withers and becomes yellow; the fruit, flowers, and leaves fall, and all begin to decay and rot. The disease seems to be contagious or infectious. There appears to be no cure, and the only course to save the trees or gardens adjacent seems to be the immediate destruction of the diseased trees.

HOW PLANTED.

At what distance are the trees planted?

Oranges about 5 meters, lemons 3 meters.

SITUATION OF ORCHARDS.

Are orchards inland or on the sea-coast, hillside, valley, or upland?

Protected from the cold, the orange tree will grow in any of these situations, but that preferable is the valley, where it can be irrigated when necessary. The lemon tree prefers a dry soil, and not having absolute need of irrigation, will flourish on the hillside. But as both these trees love the warmth, they cannot be *here* transplanted far from the sea. They (especially the lemon) are to be found with the greatest success on an espalier, or trellis, on the protected side of the high stone walls which are the common garden-fence in this country.

How near to the sea-shore are the orchards?

Within 100 meters for the oranges and even less for the lemons.

IRRIGATION.

Irrigation is requisite for the orange in this country.

I have given the rainfall (maximum fall) in ten years, 1870–'79, 1,384; minimum, 453 millimeters. Average for ten years (1870–'79), 796 millimeters, divided by seasons thus:

Season.	Average.	Maximum.		Minimum.	
	Millimeters.	*Millimeters.*	*Year.*	*Millimeters.*	*Year.*
Winter	193	409	1873	33	1878
Spring	215	460	1879	81	1871
Summer	80	231	1870	3	1873
Autumn	308	484	1872	168	1875
Total	796				

It will thus be perceived that the rainfall may be very slight during the summer, so slight that without aid from irrigation the entire crop, and possibly the orchards, would or might be so parched as to be destroyed.

The town of Cannes led the way in procuring a system of artificial supply of water. It brings the water of the Soigne in a canal from Saint Cezaide, a distance of 25 miles. Nice has just completed a similar system, by means of which waters are brought down through the *Quartier de Cinsiez*, a distance of 10 or 15 miles, and at a height of several hundred feet.

The town of Grasse is agitating the same subject, and soon the valleys along this coast will all be indulging themselves in the luxurious enjoyment of a plentiful supply of pure water fresh from the mountain springs.

HOW THE TREES ARE PLANTED.

Is the ground between the trees cultivated?

It is plowed or spaded and manured, but they do not grow anything except some flowers, usually violets.

PRUNING.

This is done once each year, giving the tree the form of a parasol, that it may have sun and air and to facilitate the gathering of the fruit.

YIELD AND COST OF CULTIVATION.

Give the yield, proceeds, and cost of cultivation.

The gathering or harvest of the fruit is biennial; that is, if the drought, cold, or some malady does not interfere.

The product of the lemon consists here solely of the fruit, whilst in other places the flowers are a source of revenue.

The orange is different. It may be denominated *previous*. Its branches, its leaves, its flowers, its fruit, and even the skin of the fruit, which would be otherwise valueless, all these form parts of the regular harvest, while the wood of the tree is in great request as making the finest marquetry.

The proceeds are somewhat difficult to calculate. A good harvest will produce a minimum of 10 francs per tree; many of them will produce 50 francs each. This is for fruit alone. Leaves and flowers may bring this up to 15 or 16 francs per tree.

The trees begin to produce at ten years of age; their best product is during their growth, until their maturity, say to forty or fifty years.

The cost may be approximated as follows:

The grafted stock as sold by the nurserymen, original cost, each, 1.25 francs.

Annual cost:

	Francs.
Irrigation, each	.50
Cultivation and manure	.50
Pruning and plowing	.50
Total	1.50

FIGS.

Indicate the kinds of trees producing the figs of commerce.

Among the 67 species of figs which can be counted at Nice, they cultivate the following: *L'Abicou* and *La Cottignane blanche.* These are to be eaten fresh about the last of June. Succeeding them in point of time are the *Bernissou noir*, *Bernissou blanc*, *La Bellone*, and *Le Col de Dame*, to be eaten dried. To be eaten dried—*La Bellone* (can be eaten either dried or fresh), *La Sarrasine noire*, *La Rollandine blanche.* The latter is the fig of Calabre.

MODE OF CULTIVATION.

Production and process of cultivation.

The fig tree grows from a slip or cutting. They are planted at about 6 meters distance. The warmer and more sheltered the better; though they will grow in colder climates, yet their tendency is to stunted growth and a return to a savage state.

The rain suffices for them without irrigation. The earth should be dug and manured here each year and the tree trimmed. The cost here is about 40 francs per hundred trees.

The production in the best years at good prices is about equivalent to 30 or 40 francs per tree.

PROCESS OF DRYING AND CURING THE FIG.

The harvest of some kinds may commence in June or July and it will last until October and November.

The ripe fruit is placed on a trellis or basket work (1½ to 2 by 2 to 3 meters) in a thin layer and exposed to the sun for ten or twelve days. They are then removed to a dry place under cover, and by keeping them stirred they will not damage for a long time, when at one's leisure he can put them in the basket, case, or hoop, and, decorated with peach or laurel leaves, they are pressed in the form in which they are known to commerce over the world.

RAISINS.

None are raised or prepared in this district. There are vineyards, but not for raisins. They are situated on the hill or mountain sides.

The fruit is sold in the markets to be eaten fresh, though they keep them fresh for a long time. These grapes are sweet and luscious to the taste. They are thus strongly impressed upon my recollection. Those not used thus are made into wine, of which that from Bellet has acquired a local celebrity.

This trade is not sufficiently extensive in comparison with other parts of France to justify a description.

THOMAS WILSON,
Consul.

UNITED STATES CONSULATE,
Nice, September 13, 1884.

DAIRY EXPERIMENTS IN DENMARK.

REPORT BY CONSUL RYDER, OF COPENHAGEN.

I have herewith the honor to present a report concerning interesting experiments which have been carried on in this country with reference to the feeding of young calves and pigs with the skimmed milk from the two systems, centrifuge and of tubs, as also with reference to the keeping qualities of centrifuged and non-centrifuged milk, and finally on the increase of those keeping powers in the centrifuged milk by the aid of heating.

The frequent discussions which took place in the course of last autumn on all these questions have been the means of instigating the immediate commencement of a series of experiments, with the object of throwing some light on these disputed points. These experiments must, however, only be looked upon as preliminary steps; and which have only now been brought before the public, before the completion of the work, in consideration of the great development in the introduction of the centrifuge system in the dairy drift throughout the kingdom; more especially in the union dairies, due, doubtless, in great measure, to the scarcity of the ice supplies after the last mild winter. It has been stoutly maintained that the skimmed centrifuge milk is of far less nutritive value than the skimmed tub-milk; and for the elucidation of this matter several parallel experiments have been made in the feeding of calves and pigs with skimmed milk from the tub as well as the centrifuge system at the Rosvary Agricultural School and at other farms under the direction and supervision of an assistant from the experimental laboratory. The ground plan of the experiments was as follows: From a number of calves and pigs, of the age when milk for one or two months constitutes the main article of food, are selected such number of animals as can be separated into two equally constituted batches of about the same age, the same weight, and to all appearances of the same thriving dispositions. For the one batch skimmed tub-milk was given as the chief food during the period of the experiments, whilst to the other batch a similar weight of skimmed centrifuged milk was given. The owner was allowed to regulate according to his own views the amount of milk to be given, as also to give in addition any other description of food, with, however, the strict proviso that such additional food should be taken from the same mixture and given in like quantities to each batch of a like number of animals.

From the experimental laboratory an assistant was sent to each farm, both at the commencement of the experiments as well as on every tenth day, to assist at the weighing of the animals, as also to make such arrangements as he might think needful with the owners, and likewise to satisfy himself that the feeding arrangements were properly understood and faithfully carried out by the feeding master, who was sent to each farm, and who was at the same time a paid servant of the laboratory. In the annexed Table I will be found the average increase in weight of each individual calf, together with the weight of fatty substance contained in the milk.

In the making up of these tabular figures, the oldest calf in the tub-milk batch is placed alongside of the oldest calf of the centrifuged-milk batch, and so on throughout.

The tub-milk calves on an average will herewith be seen to have obtained in the ten days a larger increase in weight of 0.7 pounds than the centrifuge calves. To which average difference in weight there has been a corresponding milk fodder of about 200 pounds, and in accordance herewith an increase of 0.35 pounds in the live weight will be found as the return for the larger amount of fatty substance in 100 pounds of tub-milk than is contained in 100 pounds of centrifuged milk, namely, about 0.5 pounds.

Next, as regards pigs, the average increase in weight of each individual animal, together with the fatness of the milk, will be seen in annexed Table II. The milk fodder in the ten days for each pig on an average has been of about 80 pounds for all the different batches, whilst the medium difference in the animals' increased weight under the two different kinds of milk fodder in the ten days has been 0.32 pound. In accordance therewith, a milk fodder of 100 pounds will about respond to a difference of increase in the live weight of 0.4 pound, whilst the corresponding difference of fatty substance in 100 pounds of both descriptions of milk is about 0.5 pound. It has thus been shown that both for calves as well as for pigs a small difference in the fodder value is to be found in favor of the fatter tub milk, the tub calves in twenty days having attained the same increase in weight as the centrifuge calves in twenty-one days, and for pigs twenty-three and twenty-four days will be seen as the corresponding times for a like increase. The tub animals have received in every 100 pounds of skimmed milk about 0.5 pound more butter fat than the centrifuge animals, and this fat has been repaid with an increased weight of about 0.4 pound. Taking 1 pound of butter at the price of 1 kroner (26.80 cents), the value of 1 pound of butter fat will be about 1.5 kroner, and further reckoning 1 pound of increase in the live weight at 30 öres (8.4 cents), the result will be that 0.5 pound of butter fat=60 öres (16.8 cents), and 0.4 pound increase in weight=12 öres (3.21 cents); or, in other words, when the tub animals have consumed 5 kroners' ($1.34) worth of butter fat they will only have repaid this with an increased value in weight of 1 kroner (26.80 cents). The fatter tub milk may possibly have been of other importance than has been seen through the weighing scales during these experiments; and it is therefore impressed upon the public that these experiments must not be interpreted as having afforded a conclusive settlement as to the full import of a greater or less amount of fatty matter being contained in the milk used for foddering. They should rather be viewed as a channel for this series of observations, which have been and will still be taken towards the solution of this question.

The experiments already made have, however, unquestionably demonstrated that whilst some may be of the opinion that they have noticed that animals foddered with centrifuged milk have not thriven well, they will not, however, be justified in drawing the conclusion that this is due to the difference in the fatty contents existing in the skimmed milk from one of the other systems with that of the new centrifuge system. Variations in the quantities of the fodder will have had far greater influence on the thriving of the animal than the slight difference in the fatty matter in the two kinds of milk.

With reference to the next experiments, which were undertaken to test the keeping qualities of centrifuged and non-centrifuged milk, it has been a constant source of complaint that the skimmed milk from the centrifuge union dairies speedily soured, and that it could not keep for boiling even for a few hours after being centrifuged. The cause has

hitherto been specially attributed to the scum formation in milk obtained by centrifuging. The complaints were propounded with all assurance, but without any satisfactory proofs; and, strange to say, one has never been disposed to look for the cause where, from old experience, it might be expected to be found, namely, from the reason that the sweet milk, prior to centrifuging, and the skimmed milk, subsequent thereto, had been allowed to stand over for a longer period, and had only been gradually cooled from the cow warmth downwards. The following experiments have therefore been made for the purpose of giving a satisfactory answer as to the cause of this evil:

The needful quantities of sweet milk required for these experiments were first mixed in a vessel, from which was then taken out (*a*) a sample of the sweet milk, which was then laid down in a tin pail in the dairy. The remainder was then immediately centrifuged, and thereafter was taken from it (*b*) a sample of the skimmed milk, leaving the centrifuge during the course of centrifuging, on which milk a scum is seen to be formed. At one of the farms a sample (*c*) was also taken of milk which after centrifuging still remained behind in the centrifuge; that is to say, the centrifuge's last contents. On this milk not the slightest appearance of scum is visible. The samples *a*, *b*, and *c* were of equal size, each being of about 20 pounds, and were placed in similar-sized tin pails. So soon as the last sample was taken out all the pails were placed at the same time into water in a proportionally sized reservoir, the water in this being kept for some of the experiments at a temperature of 14° to 15° C., and for the others at 18° to 20° C. (a temperature corresponding to the lower and higher degrees of temperature of a summer day), which temperature was duly maintained until the close of the experiments. It was thus possible from hour to hour and from day to day to carry out each separate experiment, as well as a whole row thereof, with such uniform state of temperature that the variations in the milk's reposing heat have not amounted to 1° or 2° C. During the entire period of these experiments the assistant had to keep watch both by day and by night; and taking the experiments at both farms altogether, it will be found that the centrifuged milk on twenty-three occasions kept for boiling for a longer period than the sweet milk, on twelve occasions for an equally long period, and on ten occasions for a shorter time. Leaving out, however, a number of experiments which were made at one of the farms with milk that had been allowed to lay the night over and thereafter heated up to a temperature of 27°, and in which the centrifuge had a decided superiority, it will be found that out of thirty-two experiments the centrifuge was eleven times in the ascendant, and the sweet milk twelve times, whilst in the remainder both were equal. Thus, on a review of these experiments in their entirety, the results may be regarded in such manner that centrifuging has neither injured nor benefited the keeping properties of the milk.

In the annexed Table III will be seen the average keeping time of the milk. This table shows the trifling importance the slight time difference has had in the keeping of sweet or centrifuged milk as compared with the time difference which is conspicuous in row to row of the experiments in proportion as a longer or shorter period of time has been allowed to elapse between the time of milking and the commencement of the experiments, or in proportion to when milk of the same age has laid over at a temperature of 14° to 15° C. or that of 18° to 20° C. With the milk's increasing age and with an increased heat temperature during re-

pose, in the same proportion will the milk's keeping quantities be found to decrease. The experiments have thus proved that that which has been known as the main cause of the rapid advance in milk's souring stage, so that it could not keep for boiling, is found to operate in an exactly similar way on centrifuged milk. Therefore, that which can commonly protect milk against such rapid stage of souring will equally protect the centrifuged milk from the same. Every housewife is well aware that milk can gain considerably in keeping qualities by means of boiling; but the boiled taste which is thereby transmitted to the milk is not favored whenever the milk has to be used at a later period in a cold state; whereas, on the other hand, this is of nó consequence when the milk has subsequently to be used in a boiled state.

At the dairy farms, under the old tub system it is generally the custom to boil the indifferently keeping skim milk which is intended for subsequent use as feeding stuff for the calves, or that may be required later on for household purposes. Likewise at many of the union dairies, where the centrifuged milk is returned to the producers, it is usual to heat the milk to near upon boiling point, either by the aid of boiling water or by leading steam into the milk, the latter method being considered the most convenient. When the object is simply to bring poorly keeping milk to a sound keeping condition, this may be effected, without boiling, by heating the milk to a temperature of 60° to 70° C. (48°–56° R.), wherewith the boiled taste and smell are almost entirely removed when the warmed-up milk is rapidly cooled again.

In the experiments which were undertaken with regard to the augmented keeping powers of centrifuged milk by the aid of heating, such milk only was used as had lain over under less favorable conditions for such lapse of time after milking that it could only be considered at the time of making the experiment as being of poor keeping quality, inasmuch as the problem it was proposed to solve was by what means improved keeping powers could be imparted to milk of this description. The pails, immediately after the desired temperature had been reached, were placed for rapid cooling into flowing water which was kept during the experiments at Ourup at 8° C, and at the experimental laboratory at 10½° C. After standing over in this water for about one and a half hours the temperature of the milk was brought down to about 2° over that of the water, when the pails were taken for the real keeping experiments to a water bath having a temperature of 18° to 20° C. It may be calculated that in the heating and subsequent cooling a period of about two hours was employed. In the annexed Table A will be found the results obtained from these experiments at Ourup with centrifuged milk heated to 50°, 60°, and 70° C., and thereafter cooled to 10° C.

The figures given in this table clearly indicate that milk in the state in which it left the centrifuge (sample *a*) could on the average only keep for boiling for a space of nine hours, whilst the milk heated to 60° C. (48° R.) was enabled to keep for twenty-four hours, and that heated to 70° C. (56° R.) even for thirty-three hours; whereas, on the other hand, a heating to 50° C. only produced a slight augmentation in its keeping powers, namely, from nine to ten and one-half hours. There is seen a general accordance throughout the experiments that the sample at the higher-heat temperature in every experiment has kept for boiling for a longer period than the samples at a lower-heat temperature. It was next proceeded to investigate to what extent a rapid cooling in water or a slow cooling from the air of these warmed up samples had any important effects on their keeping properties.

The results obtained from these experiments will be found in annexed Table B.

From these figures it will be seen that in the two samples which were heated up to 60° C. the rapidly cooled one had a slight predominance, namely, of three hours, whilst in the two samples which were heated to 70° C. the slowly cooled obtained an advantage of eight hours. It cannot, therefore, be said that either a rapid or slower cooling is of any very material importance towards the keeping properties of milk; but whereas the "boiled taste and smell" was scarcely perceptible in the rapidly cooled samples, and more especially with the samples heated to 60° C., this taste and smell was, on the other hand, much more perceptible in the slowly cooled ones.

At the experimental laboratory there were further carried out a row of experiments, with the object of elucidating to what extent the heating at different temperatures from 50° C. up to boiling point of 100° C., without too great intervening springs, exerted its influence on the milk's keeping powers. The milk used for the first experiment was centrifuged morning's milk, taken from a milk sale-depot in Copenhagen. This milk had neither been specially cooled nor heated previous to centrifuging. The milk for the other four experiments was taken from Gjeddesdal, and was evening's milk, which, after milking and at a temperature of about 31° C., had been allowed to stand the night over in a water-basin of still water at a temperature of 10½° C. In the morning the milk, at a temperature of 16° to 18° C., was then centrifuged and sent to the laboratory. These four keeping experiments, with a standing-over temperature of 19° to 20° C., afforded results as given in the annexed Table C.

From this table it will be seen that a heating beyond 65° C. has very slight influence towards augmenting the keeping powers, but that, on the other hand, the keeping properties are increased, not alone on the average, but in each individual experiment, by a heating temperature of 50° up to 65° C. The irregularity which is apparent in the reciprocal comparisons of the keeping time of the samples from 65° C. and upwards may possibly stand in connection with the circumstance that whilst the germs of a souring formation in the milk itself may be partly or in whole destroyed by the heating process, it may nevertheless happen by some accident that fresh germs, introduced from the surroundings, may again be brought forth in different stages in one or the other sample.

In connection with the four experiments of the last list with the milk from Gjeddesdal, were further carried out another row of experiments with four samples of milk, one of which, indicated as sample *k* in the annexed Table D, was placed on the floor of the cooling chamber, whilst the three other samples, marked *l*, *m*, and *n*, were at the same time respectively heated to 60°, 65°, and 70° C., and thereafter cooled in running water until they were brought down to a temperature of 12½° C., when they were likewise brought to the cooling chamber, where a temperature of about 3° C. was maintained.

The sample of each experiment remained for three days (seventy-two hours of the sample *k's* remaining) in the cooking chamber, after which lapse of time they were all perfectly fresh. They were then taken back to the laboratory, and were then laid down according to the ordinary mode employed in these keeping experiments at a standing, over temperature of 19° to 20° C. In the same Table D will also be found the time which these samples thereafter could keep for boiling. Compar-

ing the time which is put down in this table for the samples *l*, *m*, and *n* with the time put down for the corresponding samples *d*, *e*, and *f* in the previous table, it will be necessary to reduce the time of the latter table by the two hours which were expended in the heating and subsequent cooling of those samples prior to their being placed into the the water bath of 19° to 20° C. In this way the same starting point will be obtained in both cases, namely, the period at which the removal into the water bath took place. This reduction is made on the average numbers given in the last line of Table D for the experiments Nos. 52–55, Table C. Comparing next these average numbers with the corresponding ones of Table D, it will thus appear that as regards the heated samples, the three days in which they were placed in the cooling chamber have passed away without exercising any notable influence on their keeping properties, and this more especially holds good for the samples of 60° to 65° C.; whereas there is a small deviation in the samples of 70° C. in favor of those which have laid over in the cooling chamber.

Attention was finally directed under these experiments as to how far the smell and taste organs extended; that is to say, the latest period at which the milk could be designated as fresh, and thereby to determine when it first showed any sour or spoiled taste or smell. The results of the observations made of the milk's condition with a standing-over temperature of 19° to 20° C., subsequent to a heating at 60° C and upwards, will be found in the annexed Table E. (Under this time table the expressions made use of, as "soured," "spoiled," or "neither," are to be taken as meaning that at the time of observation the milk could be said to approach to souring or spoiling from a commencing decay, or else that neither of these stages could be observed before a confluence for boiling took place.) These heating experiments have thus confirmed that milk heated up to 60° and 70° C. gains largely in keeping qualities both as regards for boiling and for freshness (as judged by the taste).

On the other hand, a decided conclusion cannot be arrived at from these experiments as to the length of time which such heated milk can keep fresh at a fixed laying down temperature, inasmuch as the experiments have been too limited in number, and partly owing to their having been carried on during the colder season of the year by the aid of artificial summer heat, for which reason some accidental cause other than that of the temperature at which the milk was laid down might have exercised its influence on the keeping powers.

The foregoing experiments are, however, without question, of sufficient extent to serve as a guide for this person or that who may desire in practice to render milk (or cream) of good keeping powers by means of heating at such low degree of temperature that the boiled taste will not be prominent. The temperature to be selected with such object in view will, without doubt, be best found in the stages between 60° and 70° C. (48°–56° R.).

These experiments, which, as before said, are only to be viewed as the forerunners of still more important steps to be taken in the same direction, have been followed with the keenest interest by all classes of the Danish agricultural community.

It may with all safety be said that in no other country has the introduction of the centrifuge system in the latter years met with so great development as in Denmark, where day by day it is more and more felt that the great prosperity of their dairy drift is in a large measure due to the vastly preponderating advantages which have been obtained through this system in the cream separation; and in bringing these ex-

periments under the notice of the Department, I am in hopes they may not be without some interest and advantage to the agricultural classes of our own country.

HENRY B. RYDER,
Consul.

UNITED STATES CONSULATE,
Copenhagen, September 8, 1884.

TABLE I.

Farms.	Increased weight in ten days.		Difference in ten days, tubs—centrifuge.	Fatty matter in 100 pounds of skimmed milk.	
	Tubs, calves.	Centrifuge, calves.		Tubs.	Centrifuge.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Rosvang:					
Nos. 1 and 2	16.3	13.7	2.6	0.74	0.21
Nos. 3 and 4	15.3	18.0	−2.7	0.74	0.21
Nos. 5 and 6	17.3	12.7	4.6	0.74	0.21
Nos. 7 and 8	19.7	17.7	2.0	0.74	0.21
Sanderum:					
Nos. 9 and 10	11.0	13.5	−2.5	0.49	0.09
Nos. 11 and 12	12.0	16.5	−4.5	0.49	0.09
Nos. 13 and 14	16.0	13.5	2.5	0.49	0.09
Nos. 15 and 16		15.5			0.09
Nos. 17 and 18	13.5	11.5	2.0	0.49	0.09
Nos. 19 and 20	16.0	15.0	1.0	0.49	0.09
Nos. 21 and 22	15.0	14.5	0.5	0.49	0.09
Nos. 23 and 24	15.0	14.0	1.0	0.49	0.09
Dyelund (first experiment):					
Nos. 25 and 26	14.4	11.2	3.2	0.64	0.14
Nos. 27 and 28	13.2	10.8	2.4	0.64	0.14
Dyelund (second experiment):					
Nos. 29 and 30	14.8	15.0	−0.2	0.65	0.16
Nos. 31 and 32	15.8	16.4	−0.6	0.65	0.16
Average	15.0	14.3	0.7	0.60	0.14

TABLE II.

Farms.	Increased weight in 10 days.		Difference in increased weight, tubs—centrifuge.	Fatty matter in 100 pounds skimmed milk.	
	Tub, pigs.	Centrifuge, pigs.		Tubs.	Centrifuge.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Sanderum (6 weeks):					
Nos. 55 and 56	4.2	4.0	0.2	0.43	0.11
Nos. 57 and 58	5.0	3.8	1.2	0.43	0.11
Nos. 59 and 60	5.5	4.9	0.6	0.43	0.11
Nos. 61 and 62	6.6	4.8	1.8	0.43	0.11
Nos. 63 and 64	5.3	5.5	−0.2	0.43	0.11
Sanderum (6 weeks):					
Nos. 23 and 24	5.5	4.9	0.6	0.57	0.13
Nos. 25 and 26	6.0	6.2	−0.2	0.57	0.13
Nos. 27 and 28	5.6	4.8	0.8	0.57	0.13
Nos. 29 and 30	5.5	5.8	−0.3	0.57	0.13
Nos. 31 and 32	5.3	4.8	0.5	0.57	0.13

TABLE II—Continued.

Farms.	Increased weight in 10 days.		Difference in increased weight, tubs—centrifuge.	Fatty matter in 100 pounds of skimmed milk.	
	Tub, pigs.	Centrifuge, pigs.		Tubs.	Centrifuge.
Dyelund (7 weeks):	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Nos. 43 and 44	5.8	4.5	1.3	0.65	0.14
Nos. 45 and 46	5.9	6.3	−0.4	0.65	0.14
Nos. 47 and 48	6.9	4.9	2.0	0.65	0.14
Nos. 49 and 50	6.5	7.5	−1.0	0.65	0.14
Nos. 51 and 52	8.3	5.3	3.0	0.65	0.14
Nos. 53 and 54	6.1	6.3	−0.2	0.65	0.14
Rosvang (7 weeks):					
Nos. 11 and 12	7.0	7.5	−0.5	0.74	0.21
Nos. 13 and 14	9.0	9.9	−0.9	0.74	0.21
Nos 15 and 16	8.8	10.0	−1.2	0.74	0.21
Nos. 17 and 18	7.3	8.8	−1.5	0.74	0.21
Nos. 19 and 20	10.0	9.3	0.7	0.74	0.21
Nos. 21 and 22	10.8	10.3	0.5	0.74	0.21
Dyelund (12 weeks):					
Nos. 65 and 66	9.6	9.9	−0.3	0.67	0.16
Nos. 67 and 68	12.1	9.0	3.0	0.67	0.16
Nos. 69 and 70	10.5	10.5	0.0	0.67	0.16
Nos. 71 and 72	10.3	10.3	0.0	0.67	0.16
Ladelund (13 weeks):					
Nos. 1 and 2	8.1	11.0	−2.9	0.65	0.17
Nos. 3 and 4	9.1	6.8	2.3	0.65	0.17
Nos. 5 and 6	10.0	10.5	−0.5	0.65	0.17
Nos. 7 and 8	8.5	8.8	−0.3	0.65	0.17
Nos. 9 and 10	9.0	7.8	1.2	0.65	0.17
Dyelund (14 weeks):					
Nos. 33 and 34	6.5	8.5	−2.0	0.65	0.14
Nos. 35 and 36	11.0	6.8	4.2	0.65	0.14
Nos. 37 and 38	7.5	7.1	0.4	0.65	0.14
Nos. 39 and 40	9.4	8.8	0.6	0.65	0.14
Nos. 41 and 42	8.1	9.0	−0.9	0.65	0.14
Average	7.68	7.36	0.32	0.63	0.15

TABLE III.

Temperature.	The milk's age.	The milk kept for boiling.	
		Sweet milk.	Centrifuge milk.
Laying-over temperature, 14° to 15° C.:	*Hours.*	*Hours.*	*Hours.*
Ourup, the farm's milk	2	36.6	34.8
Ourup, bought milk	3	25.8	25.3
Ladelund, from two farms	5–2	22.5	24.3
Ladelund, from two farms	7–2	19.0	20.5
Ladelund, from eight farms	15–4	10.0	10.7
Laying-over temperature, 18° to 20° C.:			
Ourup, the farm's milk	2	24.3	24.3
Ourup, bought milk	3	20.0	18.5
Ladelund, from two farms	7–2	13.0	14.0
Ladelund, from eight farms	15–54	6.3	7.0
Ourup, bought milk, laying the night over in water at 12°, heated to 27° C	16	7.2	9.7

* About.

TABLE A.—*Laying-over temperature at 18° to 20° C.*

BOUGHT MILK.

1884.	Number of experiments.	Milk kept for boiling.			
		(a) Not heated.	Cooled to 10°. (b) Heated to 50° C.	(c) Heated to 60° C.	(d) Heated to 70° C.
		Hours.	*Hours.*	*Hours.*	*Hours.*
March 4	33	8	(9)	25	27
6	34	11	12	27	33
9	35	10	11	23	33
11	36	10	12	25	33
12	37	9	11	22	38
13	38	9	11	(22)	32
14		(5)	7	21	34
Average		8.9	10.4	23.9	32.9

TABLE B.—*Laying-over temperature at 18° to 20° C.*

1884.	Number of experiments.	Milk keeping for boiling.				
		(a) Not heated.	(b) Heated to 60° C., cooled in water.	(c) Heated to 60° C., cooled in air.	(d) Heated to 70° C., cooled in water.	(e) Heated to 70° C., cooled in air.
		Hours.	*Hours.*	*Hours.*	*Hours.*	*Hours.*
March 20	46	13	34	28	36	36
23	47	5	33	27	33	47
25	48	13	29	27	38	42
27	49	11	31	31	37	48
30	50	9	27	25	35	46
Average		10.2	30.8	27.6	35.8	43.8

TABLE C.

1884.	Number of experiments.	The milk procured from—	Milk's temperature, morning.			The milk's age.	The milk kept for boiling.								
			Prior to centrifuging.	Subsequent to centrifuging.	In the laboratory.		(a) Not heated.	Cooled to 12½° C. (b) Heated to 50° C.	(c) Heated to 55° C.	(d) Heated to 60° C.	(e) Heated to 65° C.	(f) Heated to 70° C.	(g) Heated to 80° C.	(h) Heated to 90° C.	(i) Heated to 100° C.
			° C.	° C.	° C.	*Hr.*	*Hr.*	*Hr.*	*Hr.*	*Hr.*	*Hr.*	*Hr.*	*Hr.*	*Hr.*	*Hr.*
May 12	51	Milk sale depot at Gjeddesdal	.....	20.2	15.6	21	7	10	15	21	29	38	32	32	36
17	52	....do	18.0	16.4	16.9	18	17	22	27	31	35	45	41	46	40
20	53	....do	18.0	17.5	16.4	17½	9	13	21	28	34	35	42	46	40
23	54	....do	16.6	16.2	16.7	18	11	20	26	28	35	32	38	40	36
26	55	....do	16.2	16.0	16.2	18	15	20	25	31	41	35	43	42	46
		Average	.....	.....	.....	.....	11.8	17.0	22.8	27.8	34.8	37.0	40.4	41.2	39.6

TABLE D.

1884.	No. corresponding with Table C.	Milk's age at the commencement of the experiment.	Milk keeping for boiling.			
			(*k.*) Not heated.	(*l.*)6 0°.	(*m.*)65°.	(*n.*) 70°.
		Hours.	*Hours.*	*Hours.*	*Hours.*	*Hours.*
May 17	52	18½ + 72	12	30	36	36
May 20	53	18 + 72	4	27	34	42
May 23	54	18½ + 72	8	27	33	36
May 26	55	18½ + 72	11	26	34	41
Average			8.8	27.5	34.5	39.2

TABLE E.

[The milk was fresh for the number of hours indicated, and thereafter soured or spoiled.]

1884.	No. corresponding with Table C.	At 60°.	At 65°.	At 70°.	At 80°.	At 90°.	At 100°.
		Hours.	*Hours.*	*Hours.*	*Hours.*	*Hours.*	*Hours.*
May 12	51	*19	*24	†34	†33	†33	†37
May 17	52	*25	*28	†39	†37	†35	†35
May 20	53	*25	*30	†34	†36	†39	†37
May 23	54	*22	*27	‡33	†35	†38	†35
May 26	55	*26	*40	‡36	*40	*40	*40
Average		23.4	29.8	35.2	36.2	37.0	36.8

*Sour. †Spoiled. ‡Neither.

CABINET WOODS OF COLOMBIA.

REPORT BY CONSUL DAWSON, OF BARRANQUILLA.

I have the honor to state that, having just returned from a 600-mile trip up the muddy Magdalena, the great commercial highway of Colombia, whose forest-fringed banks are clad with a great variety of foliage, I have thought it might not be without interest to our manufacturers to be made acquainted with some of the woods of this country which might be utilized for cabinet purposes.

Therefore I send you a list, which, though not perfect, will give an idea of the splendid variety of what must be a source of future supply to our furniture manufacturers.

I accompany this list with twenty-four samples, and respectfully suggest that they be sent to the World's Exposition at New Orleans:

No. 1, *Amamore.*—Dark, clouded, fine grain, admitting of a high polish; one near the coast.

No. 2, *Amarillo.*—Yellow, sometimes varied with red; very durable; grows large; straight grain.

No. 3, *Aji.*—Deep yellow; contains more dye material than fustic, which is exported in ship-loads to the United States; it also grows larger.

No. 4, *Braziletto.*—Dark purple; used by the Indians for dyeing basket material; coarse grain.

No. 5, *Balsa.*—Species of cork wood, used for buoying up rafts or canoes, and to make floats.

No. 6, *Balsamo.*—Very heavy; close, hard grain; color, dark; weight, about 65 pounds to the cubic foot.

No. 7, *Barro de Indio.*—Equal in specific gravity and weight to locust; weight, 52 pounds to the cubic foot.

No. 8, *Cedar.*—Two kinds—cedro real and cedro mundé. The former is found in the Cordilleras. highlands, in the states of Tolima, Cundumarca, and Antioquia, in latitude 1°.40 south to 2°.30 north; found in groups on the slopes leading down to the Magdalena River; very abundant where not cut out. It is brought down the river on rafts, and exported principally to Europe. The cedro mundé is of equal strength, but lacks in durability. It is found in similar quantities. Savanna or lowland cedar has a coarse, fibrous grain.

No. 9. *Mahogany.*—Grows under the same conditions as cedar. Upland mahogany has 74 specific gravity; weight, 45 to 47 pounds per cubic foot; colors with age; exported in small quantities.

No. 10, *Ceiba.*—Similar to cedar in appearance, but always retains its moisture; never dries.

No. 11, *Comino.*—Color, light brown; grain straight, wave-like, sometimes similar to satinwood. Specific gravity, 50 to 55.

No. 12, *Carrato.*—Where fresh cut, rose color; after exposure, cinnamon color; specific gravity, 68 to 70; weight, 50 to 55 pounds per cubic foot.

No. 13, *Carei.*—So called from its clouded color, being similar to tortoise-shell; growth small.

No. 14, *Caimito.*—Grain like black walnut, but of a light color; specific gravity, 60; weight, 35 to 38 pounds per cubic foot.

No. 15, *Cuchara.*—Color light; grain close; smooth; specific gravity, 60; weight, 38 to 40 pounds per cubic foot; much prized by the Indians for utensils.

No. 16, *Colorado.*—Grain, bark, and foliage same as amarillo; color, dark-red; specific gravity, 70; weight, 47 to 50 pounds per cubic foot.

No. 17, *Canalete.*—Color, dark brown, seamed with light. Very durable; specific gravity, 80 to 90; weight, 50 to 60 pounds per cubic foot.

No. 18, *Coralin.*—Heart, dark-red; outside white; where buried in moist ground, the heart petrifies.

No. 19, *Ebony.*—Same class as the gray ebony of Africa, but turns black after dressing; found facing the Magdalena above Honda, and easily accessible.

No. 21, *Gatéado.*—Color, dark clouded; heavy and close-grained; weight and specific gravity equal to No. 7.

No. 22, *Guyara de Leon.*—Color brown, variegated by light-red lines; very tough and cross-grained.

No. 23, *Guayacan.*—Lignum-vitæ; specific gravity, 126; weight, 76 pounds per cubic foot.

No. 24, *Gucamayo.*—Light yellow, slightly mottled with brown; specific gravity, 53 to 60; weight 33 to 35.

No. 25, *Grenadillo.*—Sometimes mistaken for ebony; about the same specific gravity and weight as No. 19.

No. 26, *Guayacan de jobo.*—Color, light; specific gravity and weight, about the same as No. 7.

No. 27, *Jagua.*—Resembles white hickory in color and grain, but is finer; specific gravity, 90 to 95; weight, 58 to 62 pounds per cubic foot.

No. 28, *Jobo macho.*—Dark coarse-grained, and fibrous; specific gravity and weight same as No. 12.

No. 29, *Moscafau.*—Of small growth, but as durable as No. 23, and of the same specific gravity and weight.

No. 30, *Manzanillo.*—A beautiful wood, suitable for the most delicate veneering work. It is finely mottled, and of small growth; found also in California.

No. 31, *Mora.*—Fustic (dye-wood), exported to the United States by the ship-load.

No. 32, *Nazareno.*—Light purple, seamed with red and black; very heavy and close-grained.

No. 33, *Néspero.*—Grows in the higher latitudes of the Cauca; it is dark-veined, very durable and ornamental.

No. 34, *Olla de Mona.*—Dark clouded, somewhat similar to chestnut; coarse-grained.

No. 35, *Ojeta.*—Dark and straight grain, resinous, and imperishable for foundation timbers.

No. 36, *Polvillo.*—Same family, but much finer grain than No. 23, specific gravity and weight equal thereto.

No. 37, *Roble* (oak).—Of no particular value; inferior to the yellow oak of the United States.

No. 38, *Trebol.*—Of smaller growth and finer grain than No. 25, but the same in other respects.

No. 39, *Campana.*—Heavy and coarse-grained, but ornamental and very durable.

No. 40, *Saragossa.*—Hard-grained, crooked, and of gnarled growth, but especially valuable for knees, &c., in ship-building.

No. 41, *Vainillo.*—Color yellow; grain irregular, capable of high polish.

No. 42, *Carate.*—Hard and durable.

No. 43, *Mo.*—Grows on the Upper Magdalena; resembles white ash, and is equally strong and more durable, because it contains a gum which preserves it; it is sound, solid, and has no disposition to crack, &c. It is most valuable of the soft woods.

No. 44, *Gualandai.*—A valuable ornamental wood, solid and of great durability.

No. 45, *Roble blanco* (white oak); *No.* 46, *Caiman* (alligator).—Durable and tough as "live oak"; same specific gravity and weight.

No. 47, *Diomati.*—A variegated wood of a dark-reddish color, a very beautiful surface; takes a high polish, and may be used for carpenters' planes; when cut the bark should be taken off immediately, so that a certain worm may not destroy it. Stevens, in his history of Guatemala, says it turns to stone.

No. 48, *Bilibil.*—Two qualities—dark and yellow; the dark is very durable, strong, and ornamental; it is not so heavy as the yellow; is abundant in the lowlands, and would grow in the Southern States; it is a very valuable timber; the yellow is valuable and durable, but not as ornamental as the other.

No. 49, *Igua Negro y Amarillo.*—A very valuable, durable, and ornamental wood; it is cross-grained, and requires excellent tools to work it, but there is nothing prettier.

No. 50, *Dindi.*—A bright-yellow color; very fine, solid, durable, and ornamental; yields a rich dyeing coloring matter; it is found in quantities in the valleys, and would pay for export.

Having now named half a hundred useful Colombian woods, I have only to add that there is a furniture manufactory here utilizing many of them to good advantage, and that they might be so used in the United States.

THOMAS M. DAWSON,
Consul.

UNITED STATES CONSULATE,
Barranquilla, June 9, 1881.

INFECTIOUS DISEASES IN JAPAN.

REPORT BY MINISTER BINGHAM, OF TOKEI.

Herewith I have the honor to inclose two several reports of the central sanitary bureau of Japan. The first gives the weekly reports of infectious diseases in the several cities and prefectures of Japan for September, 1884; the other gives the injurious effects by poison for the half year ended June 30, 1884.

It is to be noted that the death rate is comparatively low for a population of more than 35,000,000. I apprehend all cases reported as cholera were sporadic only.

There has been no epidemic cholera in this Empire in my opinion during the current year.

JNO. A. BINGHAM,
Minister.

UNITED STATES LEGATION,
Tokei, Japan, October 21, 1884.

INFECTIOUS DISEASES.

[Inclosure 1 in Minister Bingham's report.—Translated by W. N. Whitney, interpreter to legation.]

Weekly reports of infectious diseases for the several cities and prefectures of Japan, Nos. 36 *to* 39, *for September*, 1884.

No. 36.—FOR WEEK ENDING SEPTEMBER 6, 1884.

Diseases.	New cases.	Deaths.
Cholera	93	46
Typhoid	764	164
Dysentery	912	190
Diphtheria	38	19
Eruptive typhus	40	13
Small-pox	9	3
Total	1,856	435

Cholera cases exceeding 10 in number are reported from each of the following cities: Tokio, Kiyoto, and Osaka, and from the following prefectures: Kanagawa, Hiogo, Nagasaki, Niigata, Sakai, Miye, Aichi, Shidzuoka, Yamanashi, Shiga, Nagano, Miyagi, Akita, Tukui, Toyama, Totori, Okayama, Yamaguchi, Ihimè, Kochi, Fukuoka, Kumamoto, Miyazaki, Kagoshima.

The largest number of cases of dysentery are reported from the prefecture of Tokushima, 232; Aihime, 228; and Kumamoto, 151.

No. 37.—FOR WEEK ENDING SEPTEMBER 13, 1884.

Diseases.	New cases.	Deaths.
Cholera	65	38
Typhoid fever	519	142
Dysentery	1,223	221
Diphtheria	42	15
Eruptive typhus	68	10
Small-pox	7	3
Total	1,924	429

Cases of cholera are reported from the following cities: Tokio and Osaka, and prefectures, Kanagawa, Hiogo, Saketama, Miye, Shidzuoka, Nagano, Fukui, Ishikawa, Toyama, Okayama, Kagoshima, Yamaguchi, Wakayama, Ihimè, Fukuoka, Oita, Saga, Kumamoto, Miyazaki, and Kagoshima. Cases of small-pox are reported from Kanagawa, Nagasaki, Fukuoka, and Kumamoto.

The largest number of cases of dysentery are reported from the prefecture of Kumamoto, 328; Ihime, 259; Tokushima, 232; and Kagoshima, 103.

No. 38.—FOR THE WEEK ENDING SEPTEMBER 20, 1884.

Diseases.	New cases.	Deaths.
Cholera	32	11
Typhoid fever	526	120
Dysentery	1,166	315
Diphtheria	25	8
Eruptive typhus	16	7
Small-pox	6	2
Total	1,771	463

Cases of cholera are reported from the following cities: Tokio and Osaka, and the following prefectures: Hiogo, Saketama, Sakai, Gumha, Tochigi, Shidzuoka, Shiga, Kagoshima, Totori, Ihime, Fukuoka, Kumamoto.

The largest number of cases of diphtheria are reported from the prefectures of Tokushima, 317; Kumamoto, 274; Ihime, 261.

Cases of small-pox are reported from the following prefectures: Kanagawa, Hakodate, Kochi, and Fukuoka.

No. 39.—FOR THE WEEK ENDING SEPTEMBER 27, 1884.

Diseases.	New cases.	Deaths.
Cholera	49	17
Typhoid fever	818	165
Dysentery	801	164
Diphtheria	49	18
Eruptive typhus	25	2
Small-pox	8	2
Total	1,750	368

Cases of cholera are reported from the following cities: Tokio, Kiyote, and Osaka. and the following prefectures: Kanagawa, Hiogo, Nagasaki, Niigata, Sakai, Gumha, Tochigi, Shiga, Nagano, Miyagi, Fukushima, Fukui, Ishikawa, Tiyama, Totori, Shimane, Hiroshima, Yamaguchi, Oita, Saga.

Cases of small-pox are reported from the following prefectures: Kanagawa, Nagasaki, and Fukuoka.

The largest number of cases of dysentery are reported as follows: Prefectures of Tokushima, 329; and Yamaguchi, 166.

For reference the following printed list of the several Fu or chief cities and Ken or prefectures is appended: Tokio Fu, Kioto Fu, Osaka Fu, Kanagawa Ken, Hiogo Ken, Nagasaki Ken, Niigata Ken, Saitama Ken, Chiba Ken, Ibaraki Ken, Gumma Ken. Tochigi Ken, Sakai Ken, Miye Ken, Aichi Ken, Shidzuoka Ken, Yamanashi Ken, Shiga Ken, Gifu Ken, Nagano Ken, Miyagi Ken, Fukushima Ken, Iwate Ken, Awomori Ken, Yamagata Ken, Akita Ken, Ishikawa Ken, Shimane Ken, Okayama Ken, Hiroshima Ken, Yamaguchi Ken, Wakayama Ken, Yehime or Ihime Ken, Kochi Ken, Fukuoka Ken, Oita Ken, Kumamoto Ken.

INJURIOUS EFFECTS FROM POISONOUS SUBSTANCES.

[Inclosure 2 with Minister Bingham's report.]

Special report No. 2 of the central sanitary bureau of injurious affections by toxic substances for the half year ending June 30, 1884, in the several provinces of Japan.

Name.	Cases.	Recoveries.	Deaths.	Uncertain.
Fugu (a species of *Tetraodon*) *T. rubripes* (Schleg.), globe-fish	40	7	23	10
Ishinaki (a kind of fish), *Megasperca ishinagi* (Hilgd.)	30	30	.....	.....
Nagataku (long cuttle-fish)	1	.....	1	.....
Shigiyo (a kind of fish), *Seriola quinque-radiata* (Schleg.)	4	4	.....	.....
Root, bark, and fruit of the mitsu tree	2	2	.....	.....
Baku hon ko fun	1	1	.....	.....
Kinyo fun (*Coriaria japonica*)	7	4	2	1
Indian hemp	5	5	.....	.....
Lei sho riku	1	1	.....	.....
Aniline powder	1	1	.....	.....
Schiomfurt's green	19	15	2	2
Arsenic	1	.....	1	.....
Carbolic acid	1	.....	1	.....
Alcohol	3	.....	2	.....
Aconite	1	.....	1	.....
Strychnia	4	1	3	.....
Fly-paper	1	1	.....	.....
Substance uncertain	10	6	2	2
Total	132	78	38	16

Cases of poisoning by *fugu* are reported from the city of Osaka and fifteen prefectures, the largest number occurring in the prefectures of Oita and Chilia and during April and May. The largest number of cases of poisoning by the fish ishinaki are reported from Gumba, where twenty-seven persons were poisoned at one time. Cases of poisoning by Schiomfurt's green are reported from Okayama, Kagoshima, and Fukuoka, the greatest number being from Okayama, and all having been caused from eating rice-cakes colored with this substance. Cases of strychnia poisoning were all of suicidal intent.

FOREIGN COMMERCE OF MESSINA.

REPORT BY VICE-CONSUL PIERRONE.

GENERAL FOREIGN TRADE.

The trade of Messina with the world, as compiled from the records of the local custom-house, for the calendar year 1883, was as follows:

Imports, $6,359,630; exports, $10,878,180, or an increase of $971,751 in the former, and of $340,551 in the latter, compared with the preceding year. This increase would have been still larger had not commercial dealings been greatly affected by the strict quarantine measures taken at all Mediterranean ports against the spread of cholera then prevailing in Egypt and other eastern places.

The navigation, however, shows a decrease in the entries of 131,276 tons, and in the clearances of 148,051 tons.

TRADE WITH THE UNITED STATES.

The United States flag was represented by three vessels only, together 1,442 tons, entered and cleared. It is somewhat disheartening to be obliged to report that the hold our vessels once had in the Mediterra-

nean is yearly falling off, and that the time seems to be not far distant when they will be wholly superseded by foreign bottoms.

The exports to the United States direct amounted to $2,135,311, against $2,060,040 for the year 1882, while the imports therefrom were none.

With existing steam facilities between Messina and the leading American ports, there seems to be no reason why attempts have not been made as yet at the introduction of American goods, chiefly cotton, into this market, which, judging from their superiority and cheapness, cannot fail to command a ready and profitable sale. So long as American exporters confine their efforts, in order to introduce their goods, to circulars alone, and disregard the necessity of establishing a depot or sample-room where buyers can inspect them, no business can reasonably be expected.

Milazzo.—The imports were valued at $810,990, and the exports at $855,012, against $698,334 and $848,160, respectively, during the year previous.

LETTERIO PIRRONE,
Vice-Consul.

UNITED STATES CONSULATE,
Messina, October 9, 1884.

Statement showing the exports from Messina to the United States for the year 1883.

Argols	$41,319
Almonds	30,590
Brimstone	41,760
Canary seed	15,077
Cherries, dry	1,551
Cheese	700
Dates	200
Essences	231,900
Fruit, lemons and oranges	1,593,600
Filberts	111,426
Garlic	580
Lemon-juice, concentrated	8,489
Licorice root and paste	7,290
Olive oil	35,116
Pistachio kernels	420
Silk	4,642
Sumac	2,940
Shoes	400
Soap-stock	1,619
Wine	1,626
Miscellaneous	4,066
Total	2,135,311

There were no imports.

COMMERCIAL, FINANCIAL, AND AGRICULTURAL CONDITION OF CEYLON.

REPORT BY CONSUL MOREY, OF COLOMBO.

A GLOOMY YEAR FOR CEYLON.

The fiscal year ended June 30, 1884, closed gloomily in Ceylon. A continued short coffee crop, together with the low prices ruling in foreign markets for our staple products, prevented the European planters from paying off any of their heavy indebtedness, if indeed their liabilities were not largely increased. A state of general impoverishment prevailed throughout the central province. Mortgages were daily, almost hourly, foreclosed. Estate after estate was abandoned, or sold by the fiscal. Thousands of coolies, minus their pay for years, and consequently reduced to almost the last extremity, filled the country with their lamentations, quite as much, I believe, to the distress of their impecunious masters as to themselves.

Broken-down planters, men esteemed rich a few years since, who had been in the island a quarter of a century or more, and had large families, frequently surrendered their all to their creditors to obtain a release from indebtedness, and leaving the country, quite penniless, sought out new fields and occupations in Australia, Fiji, the Eastern Archipelago, and even in Manitoba, Texas, and many other sections of America.

Suddenly, just at the close of the year, the Oriental Bank, which of itself was carrying the principal private indebtedness of the island, collapsed, bringing certain ruin to many who perseveringly during the last six years had been converting their worn-out coffee plantations into tea, cacao, and cinchona estates, bravely striving and hoping thus to overcome their difficulties.

Referring back to my annual report for 1878, and noting the fitful contrast between the apparent prosperity prevailing then and the terrible depression now, one finds it hard to realize that so great a change could occur in so short a time, unless some dreadful calamity had befallen the country. Nevertheless, these unhappy results are, upon the whole, anything but providential, and are easily traceable to a reckless disregard of nature's laws, and to rash modes of speculation, which, having been explained in my previous reports, need not be referred to at greater length here.

FINANCIAL CONDITION.

The financial condition of the colony is in a much more deplorable condition than the agricultural, for the amount of money in the island is so comparatively small that it is a wonder how the exigencies of trade are provided for. Nearly all there is here, however, is in circulation; as, during the late period of inflation, most of it was loaned so freely upon unsubstantial security that almost every one possessing real estate mortgaged it for sums far beyond present values, so that if there was money to lend now, which there is not, no substantial security could be given therefor.

The currency is the Indian rupee, the unit of which is 1 cent. The latter is subdivided into quarters, making the smallest copper coin in

circulation equal to about one-eighth of an American cent, but at present rates of exchange only worth about one mill.

Experts declare that the Indian rupees, coined since 1840 are alloyed nearly one-fifth; and if this is true, the rupee is now about the most debased coin in the world.

Gold is not, properly speaking, a medium of exchange here, but a commodity, and a very scarce one at that. Sovereigns ruled during the year under report at about 12.50 rupees at the bank to purchasers, but travelers as a rule (who, by the way, are the principal introducers of those coins here) were generally obliged to take about 12 rupees for them in the shops and hotels, and at the Government railway stations.

During the last five years a new coinage of sovereigns bearing an effigy of "St. George and the Dragon," a very old device, formerly distinctive of a coin worth locally a guinea, have been brought here in considerable numbers. They are of a decided copper color, and the jewelers (who melt all the gold coin they can get for manufacturing purposes) declare that they are alloyed to the extent of at least 15 per cent. I am anxious to find out whether any of those decried gold coins have ever been assayed at the United States Mint.

A reference to my special report No. 217, of 30th of April, 1883, will show that there was then, even allowing that I understate the amount, not more than $4,000,000 in the island, a sum, in fact, that many American millionaires could easily afford to give away in charity; and, since the local population is nearly 3,000,000, any tyro arithmetician may compute the sum per head there was for each individual, and see that it is positively infinitesimal.

The amount can scarcely be greater now, and probably is not so much, for, although the declared import of specie in 1883 was 5,190,768 rupees against 316,086 rupees exported, it is well known that the actual export of specie yearly quite equals, and probably exceeds, the imports, though it does not so appear in the public reports, owing to most of the silver being conveyed away to India surreptitiously, to avoid freight and exchange, by chetty traders, who monopolize most of the local trade and constantly deplete the island of its specie; a state of affairs, by the way, that must continue until Ceylon is able to grow enough grain to feed its inhabitants, a desideratum very distant from all indications.

The imports of grain and rice, the great food staples of the people, for the year 1883, amounted to $7,586,169 (nearly 19,000,000 rupees), almost treble in value the amount of specie imported during that period. But this matter will receive further notice under the head of agriculture, upon which branch of the country's political economy it acts more mischievously even than upon financial affairs.

AGRICULTURAL CONDITION.

Agriculture in all of its branches has undoubtedly improved immensely during the year under report. All the products, except coffee, connected with European enterprise, viz, cacao, cinchona, cardamoms, and tea, have increased in yield largely.

Tea bids fair to eventually supply the vacuum caused by the collapse of "king coffee." What is still more encouraging about it is, no new land need be opened on its account, as it grows exceedingly well upon abandoned coffee estates, and therefore the wholesale destruction of forests, so ruthlessly indulged in during the last quarter of a century to make room for coffee, may now be stayed before irreparable damage is done through disforesting the country.

That tea is likely to succeed well in Ceylon there can be no doubt, some of the land planted with it having already, it is reported, produced 1,000 pounds to the acre, an unprecedented yield it is said, and the quality of Ceylon tea is undeniably excellent, it having found favor wherever introduced.

There was also a fair amount of increase in the principal indigenous produce, such as cinnamon, cocoanuts, and the various products of the cocoanut tree; and I believe that the production of paddy was considerably augmented. This was probably on account of the tax upon that purely native industry, having been for two or three years past collected in a more considerate way than was formerly the rule.

Why any tax at all is levied upon an enterprise which greatly needs protection and encouragement, is, to some minds, an anomaly, more especially as not more than half of the grain consumed is grown here, and at this present time of writing, when the dearth of money is so great, one trembles at the thought of a famine year in India from whence the other half comes, as probably in such an event prices would be so enhanced that there would not be enough available money in the country to buy sufficient rice to ward off starvation.

The argument in favor of a grain tax is, I believe, that it and the arrack monopoly are about the only modes in which the natives can be made to contribute anything of consequence towards the support of Government, an idea, by the way, that I am not called to express an opinion upon. It would be a good thing to abolish the tax on grain, and make the distillers responsible for the full sum now obtained by the dual arrangement.

I have much pleasure in reporting that the rice-seed, so kindly procured for me from the Department of Agriculture, duly arrived, and most of it has been distributed in the different provinces of the island to people of both high and low degree, who, it is to be hoped, will experiment with it carefully, when, if it proves favorable to growth in the island, its introduction will no doubt be highly salutary, for it is very superior to any grain grown here.

MINES.

There is nothing new to report about mines. Fully as much plumbago was produced as during the previous year, but probably not so many precious stones, owing, in the latter case, to a considerable fall in prices, and therefore want of stimulus in the industry. As a matter of fact, thousands of pounds' worth of stones, not quite first class, have been returned unsold from Europe, during the year, and finally offered at public sale in the local market, without buyers, at even one-third of their appraised value. I must say, however, that really fine stones, of which, with respect to colored gems, the quantity is always limited, are as much sought for and as dear as ever—rubies, indeed, dearer.

FISHERIES.

Fisheries have not improved; and although the waters about Ceylon abound in various excellent varieties of the piscatory family, only enough are caught for local use fresh. Most of the salted and dried fish consumed is imported. There was a mild attempt at pearl-fishing during the year off the coast of Chilaw, but the result was, I think, comparatively profitless.

COMMERCE.

Commerce, as tabulated, shows a remarkable increase over previous years. This is owing largely to every merchant ship and steamer arriving in and leaving the island having been enumerated, whether they landed or took away cargo or not; whereas, in previous years, only the number of vessels actually entered and cleared at the custom-houses were included.

The total number of steamers, inward and outward, respectively, was:

Direction.	No.	Tons.
Inward	3,705	2,530,976
Outward	3,706	2,511,029
Total	7,411	5,042,005

The amount and value of goods imported and exported were, respectively:

Description.	Tons.	Value.
Imports	250,400	$18,113,928
Exports	129,637	13,323,601
Total	380,037	31,437,529

Thus it is shown that more than 2,000,000 tons of merchant shipping, over and above enough to carry all the cargo shipped and landed, made Ceylon a place of call during the calendar year 1883 merely for coals and passengers, and there were besides a large number of ships of war and transports of various nations, which, for want of an authentic record, have not been enumerated.

Amongst the men-of-war was one bearing our flag, the Juniata, and there were three American sailing vessels, aggregating 1,650 tons, two of which loaded for New York during the year and the other for the same port in 1884.

The class proportions of total shipping were: Steamers, 87 per cent.; sailers, 13 per cent. Every western country, except the United States, contributed to the steamer element more or less, though the flag of Great Britain largely preponderated.

TRADE WITH THE UNITED STATES.

Eighteen sailing vessels, aggregating 11,404 tons, cleared for the United States, conveying 14,357 tons of cargo, valued at $745,160, being quite equal, if not actually in excess, of any previous year's shipments, as the values are converted to United States gold at a considerably lower rate per rupee than has ever been adopted in any of my preceding reports. There is no marked change in the character or proportions of these goods from last year; but it is proper to state that a considerable quantity, especially of cinnamon, went by steam via China to San Francisco, and via Europe to New York.

The imports of American goods through various indirect routes, as usual, were probably below those of the preceding year; but there was a slight break in the monotony of prevailing affairs when one American

vessel from New York direct arrived with about 300 tons of kerosene oil, valued at $15,863. This was landed free of duty. Not so, however, with another ship's cargo, which arrived a few weeks after a duty of 5 per cent. ad valorem had been hastily levied upon kerosene oil; and although the Department of State represented the unfairness of the impost, the local authorities refuse to refund the duty thus obtained.

The shipments from Galle to the United States, a feature of the trade inaugurated about two years ago, after that port succumbed to Colombo as a mail rendezvous, are on the increase, more than a quarter of the vessels loading for New York now touching at the southern port for a portion of their lading. This renders the consular agency there considerably more useful than at the time of, and for many years after, its establishment.

POPULATION AND LABOR.

The population is now nearly 2,800,000, though the increase during the year has probably been abnormally small, owing to the excess of coolie departures over arrivals, and to considerable infant mortality, from want of natural sustenance—a want, by the way, which, whatever may be its prevalence amongst the poor Singhalese in isolated and neglected districts, may well prevail among the Tamil estate coolies, whose condition remained, until near the close of the year, not greatly ameliorated from that described in my last year's report, though it is being somewhat improved now, owing to some special legislation upon the subject, initiated by the late lieutenant-governor, and partly introduced by Sir Arthur Gordon.

Responsive to the request for labor statistics, contained in Department circular of 15th February, 1884, I am collecting slowly, and with considerable difficulty, the necessary materials for a special report upon the labor of the island, and therefore need not dwell longer over that subject in this document.

REVENUE.

The revenue is failing, owing to depreciation in railway earnings and diminished proceeds from sale of public lands. These, however, are perfectly natural consequences, and I am encouraged to believe that ways and means will be found of administering the Government with diminished resources about as successfully as when the means were superabundant.

MISCELLANEOUS.

New Orleans Exposition.—I received and circulated, at a reasonably early date, full particulars about the forthcoming exhibition at New Orleans; but commercially that great town is too remote from Ceylon, and times are too hard here, to admit of such an interest as I had hoped for being created in the enterprise. So, much to my regret and disappointment, no considerable exhibit will be sent from Ceylon, though I am, at this present time of writing, preparing, and, inducing others to prepare and send per post, such samples of the leading products as will give our Southern countrymen some idea of the excellent things they may get from Ceylon, where the variety of exports is as great and ever changing as the views in a kaleidoscope.

Wild cotton.—In this connection I would mention some of the new directions trade is taking. One, at least, new product, viz, "kapook," the natural product of the wild cotton tree, which was not previously known here as an article of export, is being sent away this year to

Europe and Australia (where it is used for bedding and upholstering), to the value of $8,000 to the 23d ultimo. Even the seed of this product is found to be worth saving, and is being shipped to Europe, probably for oil-making purposes, perhaps to feed milch cattle.

Copra.—Copra, the kernel of the cocoanut, which formerly was only shipped to India, is being this year sent largely to Europe for the extraction of oil; and since there are immense manufactories of the oil in Ceylon, and labor is so much cheaper here than in Europe, it would be interesting to know why it is sent away to be there manufactured into oil. Perhaps the oil is wanted exceptionally pure. It is well known that cocoanut oil contains an element which, in warm weather, decomposes quickly, tainting the otherwise sweet oil and rendering it unfit for culinary purposes. As the copra now being shipped to Europe goes to those countries celebrated for the production of olive oil, can it be that the chemists there have discovered some process of purifying the cocoanut oil so as to enable the manufacturers to mix it with or substitute it for olive oil, as has been done with cotton-seed oil for a considerable period?

I am aware that by expressing the oil from the copra in Europe the people there obtain from the residue a fresh and sweet oil-cake, well suited for cattle food. This they could not get, except at great cost, in anything like such good condition from abroad, and perhaps this is the cause of this new and growing demand for copra in Europe. The latter idea was presented to my mind by the fact that several shipments of the article have lately been made to Holland.

W. MOREY,
Consul.

UNITED STATES CONSULATE,
Colombo, September 30, 1884.

GERMAN WINE-GROWERS' UNION.

REPORT BY CONSUL MOSHER, OF SONNEBERG.

1. THE GROWTH OF GRAPES.

The German Wine-growers' Union held its annual meeting at Geisenheim, on the Rhine, September 29 and 30. It was well attended, and there were interesting discussions relating principally to the culture of grapes and the manufacture of wine.

Dr. Muller-Thurgau, professor of botany in the Royal Institution for the Culture of Fruit and Wine, made an interesting report on the circumstances which influence the "setting" and growth of grapes. He had found that as early as July and August of one year could be detected the embryos that would not appear as clearly-defined shoots until the next year. The number of these depended upon the age of the vine, the degree of nutrition, and the condition of the buds.

He also touched upon the interesting question of fructification, and said that in many vines there was a species of self-impregnation, while in others the pollen must be conveyed by wind and insects from one blossom to another. The professor had paid special attention to the so-called hybrid grapes, and among other results he had succeeded in producing perfect fruit by impregnation with the pollen of American vines.

Referring to an admitted falling-off in the quantity and quality of grapes, he attributed it chiefly to bad fecundation, the result in most cases of damp weather, the coldness or the soil, the presence of weeds, and lack of fertilization. As a remedy he strongly urged the destruction of weeds and the tying up of the vines before the blossoming season, so as to give the sun free access to the fruit and soil.

2. THE PHYLLOXERA AND OTHER ENEMIES OF THE VINE.

Dr. Moritz, professor of chemistry in the same institution, discussed the phylloxera, and referred to the wine industry of France as showing what enormous injury this insect was capable of producing. In that country, before the appearance of the phylloxera, more than 5,000,000 acres were planted with vines, but in 1883 this area had fallen off about one-fifth. In 1882 alone an area of 1,500,000 acres was blighted by this insect, and in 1883 a still larger area.

The best means for destroying the pest thus far discovered was to lay the vineyard under water. Sprinkling the soil with coal and sulphur, and with carbonated sulphur, was also efficacious. By flooding, 17,550 acres were reclaimed in 1878; over 30,000 in 1879; over 50,000 in 1880; over 80,000 in 1881; 120,000 acres in 1882, and about 170,000 in 1883.

Excepting Greece, this pest has visited all wine-growing countries—Austria-Hungary, Italy, Spain, Portugal, Russia, Switzerland, and, at last, Germany. A few days before the meeting of the Union large numbers of the insects had appeared at Linz, on the Rhine, destroying in a short time 85 acres of fine vines. It is alleged in that locality that the insect had been imported in American vines.

To circumvent the ravages of phylloxera, a method of renewing old vines was described to the Union, which consisted in cutting the vines off close to the roots. The remaining portion was then covered with earth and quickly produced new fruit-bearing vines.

Hail-storms have worked great havoc with the vines the past season, and the means for protection are beyond the ability of all but the most extensive growers. Insurance companies will only insure for the grapes that are actually beaten off by the hail, and demand very large premiums, while they refuse to insure at all for fruit still remaining on the vines in an injured state.

Considerable complaint was also made by members of the Union of the ravages of the so-called "grass and sour worm" in their vineyards, which had destroyed much fruit, and which in turn seemed to be proof against the ordinary insect poisons. The best results were obtained with a mixture of pyrites and sulphur.

3. TEMPERATURE IN FERMENTATION.

Professor Muller-Thurgau made some interesting statements concerning experiments which he had made to determine the influence of temperature in the progress and results of fermentation in wine. He had tested the results of fermentation at 9°, 18°, 27°, and 36° Réaumur, with must containing 16.84 per cent. of sugar and 0.94 per cent. of acid. The results were as follows:

The wine contained, at a temperature of—	Alcohol.	Sugar.
	Per cent.	*Per cent.*
36°	6.88	2.31
27°	8.01	0.15
18°	7.98	0.35
9°	7.66	1.12

The Union could not agree upon the best temperature for fermentation, owing to the great variety of taste as to the presence of alcohol, but it was agreed that fresh must required a temperature of from 14° to 18° Réaumur, while impaired must required a temperature of from 12° to 14°.

GEORGE F. MOSHER,
Consul.

UNITED STATES CONSULATE,
Sonneberg, October 6, 1884.

WINE-MAKING IN THE MÉDOC.

REPORT BY CONSUL ROOSEVELT, OF BORDEAUX.

Since the month of August many doubts had been expressed concerning an early vintage in the Médoc. In favorable years it commences about the 15th of September. This year, on account of the late rains, the vintage did not begin until September 25. I was very much impressed with the whole proceedings, commencing with the cutting of the grapes and finishing by putting the new wine into barrels.

There is no prescribed time for the duration of the vintage; that is regulated by the size and producing capacity of the vineyard. The grapes are gathered as rapidly as possible. The wages paid to the grape-gatherers are as follows: Men receive 30 cents per day, with food; women and children 15 cents per day, with food. The wine-pressmen receive from 35 to 40 cents per day. I observed that to every twelve or fifteen rows of gatherers there was a director, whose duty was to hasten the gatherers, to see that the vines were properly picked, that all fallen grapes are carefully picked up, and to observe that neither leaves nor anything else improper is allowed to fall into the baskets.

Women and children are employed to cut the grapes. A cutter is placed in each row, who gathers the grapes and puts them into a wooden basket. A man, called basket-emptier, receives from each gatherer his full basket, which the cutter exchanges for an empty one, the basket-emptier upsetting the grapes into a wooden bucket containing about three pecks, at the same time pressing the grapes, but taking care not to crush them. Two bucket-carriers are allowed to every eight rows. They carry little straw cushions upon their backs, upon which they receive the buckets, which they then empty into two small tubs, holding about thirty-two buckets; these are placed upon a cart and sent to the press. Upon the arrival of the tubs at the wine-press, the pressmen receive and empty them into the "égrappoir," which separates the grapes from the stems.

The wine-press house is generally a building of rectangular form, from 26 to 32 feet wide and 40 to 50 feet long. Upon one of the long sides of this building there are three large windows, before which are placed the wine-presses where the grapes are pressed. By the means of these windows the tubs slip from the cart upon the wine-press, where they are emptied. On the opposite side are ranged the vats, immense oaken slightly conical vessels, having a varied capacity from twenty-four to forty hogsheads. These vats have double covers and are provided with a hole where a siphon is placed to conduct into a recipient of water the surplus of carbonic acid. The interior lid is placed at a height so that during fermentation the rasp rests completely immersed

in the must, letting the wine only pass in proportion to the exigency of fermentation. The vats are placed about 3 feet from the ground, and must be filled in twenty-four hours, so that fermentation may not be disturbed.

I found that a few proprietors have adopted a different wine-press house; the building is a little more elevated, the vats occupying the entire ground floor; a little lower than their upper orifice a floor is placed upon which is laid a small railway, and upon this a movable wine-press circulates. There are rarely windows, except upon the first floor, in order to obtain for the wine-press as uniform a temperature as possible, an essential condition to good fermentation. By means of a system of pulleys the grape-charged tubs are placed upon this floor and emptied into the movable wine-press. When the grapes are pressed the slightest inclination given to the press forces the wine and rasp into the vat. Some of the new wine-press houses employ an aspirating and forcing pump provided with a long rubber tube, which allows the wine to enter the hogsheads without losing the aroma by contact with the air. When the grapes arrive at the wine-press they are placed on an iron or wooden grating surrounded by a frame placed upon four feet about three feet high. This grating forms the bottom of a flat box, which is laid upon the table; the workmen then, with little rakes or with their hands, detach the grapes from the stems by rubbing them over the grating.

The first result of crushing is to express from the grape the greatest part of its juice, thus increasing the quantity of the press-wine. The pellicle of the grape contains tannin and coloring matter combined with a little portion of resinous juice. The process of crushing separates these distinct elements, and augmenting the quantity of must, renders fermentation prompt and more equal, and gives more color to the wine. Many machines have been invented for crushing the grape, but none have replaced in the Médoc district the foot of man, the weight of whose body is heavy enough to crush the grapes and the sole of the foot sufficiently flexible to avoid crushing the sour grapes or breaking the seeds, which latter impart a very disagreeable taste to the wine. Quite a number of patent crushers are, however, used in other districts in the department of Gironde.

The wine-presses of the Médoc are large frames composed of oak planks from 6 to 10 feet long, about 8 inches thick, and from 18 to 28 inches wide, laid on the narrow side at about 4 feet from the soil, with a screw in the center, and a bottom formed of boards of the same wood thoroughly joined together. These presses slightly incline forward, having a hole in the front plank on a level with the bottom, through which the juice flows into the tub when pressed. After having filled the vat some days before with water, in order to swell the wood, the interior is carefully cleaned, and the inner sides sponged with alcohol. A large wooden tap is placed at the base of one of the staves in a hole made expressly for it. To avoid the rasp from obstructing the aperture of the tap when drawing off, an iron or wooden grating is placed at the bottom of the vat in front of the tap. When the vat is prepared, it is filled in one or two days, leaving sufficient room so that the rasp may not overflow during fermentation, and the press-house is closed as long as possible, in order that the variations of temperature may not disturb fermentation.

There is no fixed time for drawing off the wine, as it depends upon the degree of maturity of the must, the nature of the vines, the temperature at the time of fermentation, and by the decision of the proprietor

as to whether he desires to make a wine more or less delicate, alcoholic, or mellow and flavored. The vats, however, are generally emptied between five and ten days.

In the Médoc three species of wines are made. The first wine is composed of the vintage proceeding from old vines and from the best vines most exposed to the sun; the second is the produce of very young vines less favorably situated, the fruit of which is of an inferior quality; the third is composed from the end of the vats, which is mixed with white wines and is called ordinary wine. There is also a drink made for the peasantry, called "piquette," which is made by pouring water on the pressed and drained dregs. It is allowed to remain in the vats fifteen days, when an acid drink is formed, more or less strong, according to the quantity of water used. When it is found by tasting that the wine is perfectly made, it is promptly put into casks. When drawing off the wine from the vat, a wire sieve is placed under the tap to prevent the seeds from falling into the tub. A man is stationed at the tap to watch the drawing and to arrest it as soon as the wine becomes thick. The wine is then put into casks in the following manner:

A round wooden recipient is employed to transport the wine from the tub placed under the vat into the hogsheads. This receiver is about 3 feet high and 2½ feet in diameter, and crossed at the upper part by a heavy wooden bar, enabling two men to carry it upon their shoulders. The hogsheads to receive the wine having been arranged in the cellar, they commence relieving the first vat of its quantity. All of this wine is divided into equal quantities and poured into casks capable of holding the first wine. The same operation is employed with the second vat, and care must be taken to put the commencement of this vat into those casks which have received the center of the first vat, and so on with the others. Precaution is taken that the wine is equalized in all the casks, so that each receives its proportionate share of the commencement, middle, and end of the vat. It is then left from three to five weeks to ferment, according to the season and quality of the wine. It then discharges by the bung all the impurities it contains, but it does not become entirely clear until the first drawing-off, which takes place from December to March, according to the quality of the crop. The hogsheads and casks are placed upon long beams, bung upwards, which raises them from 15 to 18 inches above the ground, so as to facilitate bottling. The casks used for new wine must be new and made of oak, with iron hoops. Before filling a cask with wine it is first rinsed with boiling water, afterward with cold, and finally with common white wine, or a small quantity of brandy mixed with water. Most of the wine cellars in this department are built from 1 to 3 feet above the earth, with floors made of pulverized stone, or a mixture of sand, lime, and gravel; the roof is generally from 30 to 40 feet high; the windows are small, facing the north or west. The cellars are kept very clean and entirely free from all materials conducive to dampness.

GEO. W. ROOSEVELT,
Consul.

UNITED STATES CONSULATE,
Bordeaux, October 15, 1884.

THE ARLBERG RAILWAY.

REPORT BY CONSUL BEAUCHAMP, OF ST. GALLE.

OPENING CELEBRATION.

The formal opening of the Arlberg Railroad by the Austrian Emperor was celebrated with considerable ceremony at Braganz, on the eastern shore of the lake of Constance, on the 20th instant.

The imperial train, consisting of fourteen Pullman cars, drawn by two powerful engines, with three hundred guests, left Innsbruck in the Tyrol at 8 o'clock in the morning and arrived at Braganz in the afternoon of the same day at about 5 o'clock.

Each station on the new railway, a length of 236 kilometers,* was splendidly beflagged and richly decorated with fine pine branches. At Braganz the station buildings were similarly beflagged and decorated with green. In the principal street of Braganz a triumphal arch, resting upon two green obelisks and bearing the inscription, "Franz Joseph, te Saxa loquuntur," was to be seen.

On the Emperor's arrival at the station and along the principal thoroughfare passed in gaining his hotel he was received with some cheering. Considering the great number of people present, however, there seemed to be a lack of enthusiasm.

In the evening the town, surrounding mountains, and lake were brilliantly illuminated, which, for the various figures and originality of designs, were hard to surpass. The fires were burning everywhere, on the hills, in the deep gulches, and the high mountain peaks which embrace this part of the lake. In the extended outline, including the port, a brilliant semicircle stretching several miles away was viewed to great advantage by the Emperor and invited guests from a lake steamer anchored about a mile from shore.

Around the clear outlines of the illuminated houses of the town was represented old castles, Grecian and Chinese temples, obelisks, bodies of armored soldiers with spears and lances, and all kinds of fancy advertising signs.

The lake was bedecked with hundreds of small boats and steam yachts going to and fro decorated with Chinese lanterns, and the heavens were continuously ablaze with hundreds of rockets of all colors and sizes, while singers performed the national hymn.

The Emperor with his invited guests, after viewing the fireworks and illumination, landed at the dock about 10 o'clock, when the crowd on shore rushed forward to get a view of His Majesty. The local papers both in this part of Switzerland and Vorarlberg contained extracts to the effect that it was feared a plot was on foot among the anarchists to assassinate the Emperor on this occasion, and recommended great caution. I was therefore curious to see what outward precautions guarding against such an event would be made.

The police precautions exhibited on the arrival of the Emperor at the railroad station in the afternoon seemed to be good, but at night when the Emperor's ship landed at the dock, which was poorly lighted and comparatively dark, he stepped ashore, followed by his suite, and boldly walked through the surging crowd preceded by but *two* police-

* From Innsbruck to Braganz.

men, and continued his journey from the quay to his hotel through a street not even lighted by gas-lamps, with hundreds of people on either side and within two feet of him, without the least hesitancy or apparent fear of danger.

The grand event was concluded by a banquet given in honor of the Emperor at the Gymnasium Hall at Braganz, at which over 200 guests were seated. The minister of commerce proposed the health of the Emperor, and then followed the foreign representatives of the frontier states, Bavaria, Wurtemberg, Baden, and Switzerland. Very marked and particular attention was paid to the representatives of the Swiss Government.

IMPORTANCE OF THE ARLBERG RAILWAY TO SWITZERLAND.

The importance of this new road to Switzerland is considered very great. This canton alone imports grain and cereals amounting to about 11,000,000 francs per annum, drawing the same from Hungary, Roumania, Russia, India, and America. Of Switzerland's import she takes over one-half from Hungary and Roumania, one-quarter from Russia, and the remainder from America and India; the imports coming from the latter place come mostly from Bombay and Calcutta via the Suez Canal.

The consumers and millers of this entire section of country prefer the Hungarian and Roumanian wheat on account of the very white flour it produces, and the consequence was that before the completion of the Arlberg Railroad all the wheat purchased in these countries had to be shipped round via Munich and bear transshipment and a subjection to the German or Bavarian customs officers, which greatly increased the cost of delivery here, the saving in this respect alone being estimated at from 100 to 150 francs per car, according to the distance.

This is also the direct air-line for passenger travel now from Vienna to Paris, the journey being made without change of cars. Several years ago the road was considered of so much importance to this part of Switzerland that the United Swiss Railroad proposed to donate several million francs to complete the project then on foot for the tunneling of the Vorarlberg Mountains, but which, fortunately for the United Swiss, fell through, as now the benefits will be reaped without the aid of Swiss capital.

The Austrian Government is particularly anxious to cultivate friendly relations with Switzerland at this time and is meeting Switzerland halfway and will make most earnest endeavors through this new channel to extend their commercial relations. The Vorarlberg tunnel is to this part of Switzerland what the St. Gothard tunnel is to the other cantons.

The prices of grain will not be so much affected now as at the disposal of the coming crops; for the last crops in Hungary and Roumania were never so good, nor the prices ever so low as at present.

GREAT FEAT IN ENGINEERING.

The chief engineering feature of this road is the cutting and the vast tunneling of the Vorarlberg Mountain, which is between six and seven miles long, and the overcoming of mountains, gorges, rocks, and torrents from Landeck to Bludenz. The Arlberg tunnel comes next in length to that connecting Savoy and Piedmont under Mont Cenis, which is 7½ miles in length. The St. Gothard tunnel is more than 9 miles long. Engineering skill of to-day obliterates the Alps and mingles the waters

of one ocean with the other. Here the mountains are pierced, rivers and great gorges bridged over, and trade and intercommunication pass on unhindered.

The overland-mail passes through the Mont Cenis tunnel on its way to Brindisi and saves twenty-four hours. The North and the Mediterranean Seas are linked together by railways and pass the traffic through the St. Gothard tunnel as naturally as the products of the Atlantic seaboard are passed over the great belts to the Pacific coast. With each new experiment the art becomes more perfect.

The Mont Cenis tunnel was commenced in the summer of 1857 and was not completed and ready for traffic till the beginning of the fall of 1871, occupying more than thirteen years. The St. Gothard required eight years and the Arlberg tunnel only about three years.

The engineering skill required to construct the Arlberg Railroad from Landeck to Bludenz is far greater than that required in the piercing of the tunnel itself, as the difficulty in laying the track over deep crevices, beginning with almost perpendicular walls of rock out of which a road-bed must be cut and the rails carried and laid, presents almost insurmountable obstacles; but in this day and age, if only money and time sufficient be given, the engineer seems to be able to accomplish almost anything.

DESCRIPTION OF THE ROAD.

The road is 137 kilometers (85 miles), that is, from Innsbruck, the heart of the Tyrol, to Bludenz, the heart of the Vorarlberg. It is 74 kilometers (45 miles) long from Innsbruck to Landeck, and from Landeck to the foot of the Vorarlberg 26 kilometers (16 miles). The tunnel is 11 kilometers (5.8 miles), and from Langen, the western gate of the tunnel, to Bludenz 26 kilometers (16 miles).

The scenery is among the grandest in Europe. It is more appreciable to travel from west to east, as the approach from the low lands on the Lake of Constance discloses the grandeur and romantic beauties of the Alps to a greater advantage.

The tunnel, and between St. Anton and Langen, has a double track; the rest of the line is single. The track where it crosses the Tyrol is situated 86 meters, and in the Vorarlberg 130 meters above the level of the valley. The line rises 25 yards to the thousand on the Tyrolese side, and 50 yards to the thousand on the Vorarlberg side. The tunnel considerably ascends from the east to the center, and then descends toward the western gate 15 yards to the thousand, which makes the descent of the train so rapid that the vacuum brakes are necessary to prevent it from going too fast. The road traverses a rather level country from Innsbruck to Landeck, but from Landeck to Bludenz the features are purely characteristic of a mountain line, and the engineers have had to battle with the greatest difficulties, which have as yet never been surpassed by human skill and patience.

The railway is built on the left bank of the Inn River, and in passing from the east to the west the beautiful scenery commences after the station of Oetzthal, where the Ache River is spanned by a bridge 80 meters long. From and beyond Koppen station to the westward begin the famous galleries hewn into solid rock, the greatest masterpieces of modern engineering. These series of interesting works are especially to guard against avalanches and make the building of the road possible at all.

Before reaching the Imst station it passes through dark and gloomy galleries of rock. Soon after leaving the station, however, the dark gal-

leries, overhanging rocks, precipices, and ravines are again encountered, until a beautiful and fertile valley is met surrounding the station Schöenwies. This change, however, does not last long, and we soon return to the narrow valleys and rocky surroundings until Landeck is reached out of whose beautiful valley rises an amphitheatre of high mountains, which makes this one of the most picturesque spots on the route.

A short distance from Landeck the Inn River is crossed, and soon after passing Pians station the most difficult ground is met with before reaching the tunnel. High arches span the Gander and Wolfsgruber Rivers, with a bridge thrown over the Trisianna Gulch 86 meters high and 255 meters long.

From here to Kettnen station, and on to St. Anton, a series of aqueducts and short tunnels are met, and the Rosanna River is crossed no less than six or seven times. At St. Anton is the beginning of the tunnel, and just before entering the eastern gate may be seen the large porphyry column commemorating the memory of Lott, the builder of the tunnel, who died last year.

The entrance of the tunnel is very imposing. The gate, like the whole of the tunnel, is eight meters wide and seven meters high. The columns and frame-work are of light granite, and in the middle of the arch is carved the Austrian imperial eagle, and under it the Emperor's name.

During the first hundred meters or so the tunnel forms a curve, but afterwards pursues a straight line to the western opening. Through the tunnel, at a height of two meters, run the alarm-bell cables. At 100 meters there are niches for the watchmen, and at every 300 meters niches with signal lanterns, managed by cable at either end of the tunnel. At every 1,000 meters there is a double niche containing alarm bell with signal light. After entering the tunnel to the depth of about 50 meters the walls begin to be damp. The water is caught in pipes and conducted into a drain or canal under the tunnel. At the summit of the tunnel, 5,000 meters from the entrance, a slab commemorates the day when the thin wall was broken in, just three years after its commencement, from both sides.

The exact length of the tunnel is 10,352 meters, and takes about two hours to walk through, while the train traversed it in just twenty-four minutes by the watch.

EMORY P. BEAUCHAMP,
Consul.

UNITED STATES CONSULATE,
St. Galle, September 25, 1884.

COMMERCE AND INDUSTRIES OF MANNHEIM.

REPORT BY CONSUL WOLFFSOHN.

MANNHEIM MANUFACTURES.

The export to the United States of chemicals and colors manufactured in my district is constantly increasing. There are engaged in the manufacturing of these articles 5,318 people. There are also large foundries and machine-shops manufacturing scales of all kinds, raising apparatuses, steam-engines, printing presses, machines for brewing establishments, &c., in which there are employed nearly 2,200 laborers. There are railroad-car manufactories, also a large bridge-building concern; manufactories of agricultural implements, one of which turned out 8,000

thrashing and other machines last year. One of the largest plate-glass factories in Germany is located here, also two Portland-cement works, which get their material from their own quarries. A porcelain and crockery factory, employing over 800 hands, is considered one of the largest in Southern Germany. There is also a large brick factory turning out 10,000 bricks a day. Four tanneries in my district employ over 4,000 men, doing business to the amount of 20,000,000 marks per annum. The sugar-refining establishments in Mannheim and Frankenthal produce sugar to the value of 2,700,000 marks per year, and employ over 2,000 men.

This district is of great importance in the manufacture of tobacco and cigars, employing nearly 2,500 men in its factories.

There are three India-rubber factories with 1,900 employés, also large paper-mills, &c.

Three steam navigation companies owning large warehouses, where merchandise is stored until shipped or delivered, employ over 500 laborers.

There are in all nearly 24,000 men employed in the industries in the district of Mannheim, and its importance as a manufacturing, railroad, and steamship center may be judged by the fact that the twenty-fifth annual meeting of the Society of German Engineers was held here from September 1st to 3d. The society was organized in May, 1856, by a small number of students (engineers); on the following December there were 172 members; in 1857, 300; and two years later, 455. In 1860 it numbered only 352, when the society again gained members every year until it reached the first thousand in 1866, while to-day it prides itself on numbering over 5,000 practical engineers. No meetings were held during the war years of 1859 (Italian), 1866 (Austrian-German), and 1870 (Franco-German).

Fr. Krupp, the famous manufacturer of cannons, is an honorary member. The society has not alone achieved much in a scientific way, but, through its influence, created many laws of great importance, such as the introduction of the meter measure, and that regulating German patents. More especially is the society entitled to the credit of establishing a German steam-boiler-inspection law, as also the (Unfallversicherungs) law, which compels every manufacturer in the German Empire to secure to his employés the full amount of their wages in case of accident, for which risk the manufacturer retains a small amount out of the weekly wages. This law also applies to all railroads.

Several new street-car routes have been completed, one across the Neckar Bridge to Ludwigshaven (Bavaria); one from there to Dürkheim, which is one of the largest wine-growing districts in the Pfalz, is projected, and likely will be operated next spring, and another line opened shortly from Mannheim to Feudenheim.

Telephones are largely introduced in the city and to neighboring towns, and a line is just built between Mannheim and Frankfort-on-the-Main. In the city of Mannheim the increase of population is very large, having now 58,000 inhabitants. The general health is good, and not one case of cholera was reported throughout the whole Grand Duchy of Baden, while the epidemic raged all around us, though there was a rumor of a case at Basel, the boundary line of Baden and Switzerland; and there was very little traveling in Italy and Switzerland this season for fear of cholera, and very few people will stay there over winter. Baden-Baden, in my district, is selected by a great many Americans for their winter quarters, and, according to all accounts, it is in every respect the most sedate spot for invalids to winter in.

Many new warehouses, factories, and dwelling-houses have been erected in the city, and quite a new part (Neustadt) is built up near the railroad depot, where wide streets are laid out and elegant mansions erected.

The banking capacity of Mannheim is very large. The rate of discount received by the banks during the year has averaged 4 per cent. The general affairs in my district are very favorable both to the Government and the people.

THE CROPS OF BADEN.

Since the harvest is completed the result in general is very satisfactory. Wheat turned out good, and commands 17 to 18 marks per 100 kilograms; rye, poorly, 15 to 16 marks; spelt, good, 12 marks; barley, very good, 16 to 18½ marks; oats, rich in quality but not in quantity, 6 to 7 marks; rape seed, good, 26 to 27 marks; and while the first cut of hay was good the second was very poor, with prices 6 to 7 marks; potatoes are especially good, and sell for 4 marks per 100 kilograms. The tobacco crop is estimated to be from 20 to 25 per cent. richer in quantity than last year; the quality is considered reasonably good, though the excessive hot weather in August threatened to injure the plant considerable, but a heavy rain set in and restored it, though the final result after the crop is dried cannot as yet be judged.

The hop crop in the Duchy of Baden is reported as very good both in quality and quantity, resulting in over 14,000 centners, ranging in prices from 100 to 200 marks, so that over 2,000,000 marks are received from the hop crop of this district.

THE VINTAGE.

This is also an important wine-growing district, though the export to the United States is not very large. The result of this year's vintage is very satisfactory as to quality but not in quantity, owing chiefly to the fogs which prevailed during the spring, and which prevented the growth of the grape. The red grape turns out better both in quality and quantity than the white. The business is very brisk, and prices ranged higher than usual, commanding, for best quality, from 550 to 2,500 marks per 1,000 liters.

EXPORTS TO THE UNITED STATES.

The exports declared for the United States, during the year ending September 30, 1884, show a decrease in value from the previous year of $297,586.15.

The decrease and the increase in the several articles of export were as follows:

Declared exports for the United States.

ARTICLES SHOWING DECREASE.

Articles.	Decrease.	Articles.	Decrease.
Asphaltum	$10,769 15	Paper ware	$539 55
Books, prints, charts, decorations, and articles of art	1,128 70	Rags	11,342 20
Clocks and clock materials	422 40	Smokers' articles	6,297 35
Cotton dress goods, velvets, and furnishings	14,554 65	Silk dress goods and plushes	2,042 95
Drugs, chemicals, paints, oils, and colors	251,470 45	Stones	954 90
Gold ware, mostly jewelry	10,075 50	Wines and brandies	28,144 42
Household goods	2,987 85	Woolen and worsted cloths and clothing	2,544 95
Land produce, fruits	9,506 80	Total decrease	352,781 82

Declared exports for the United States—Continued.

ARTICLES SHOWING INCREASE.

Articles.	Increase.	Articles.	Increase.
Bed feathers	$698 45	Musical instruments and works	$898 50
Empty petroleum barrels	3,824 07	Porcelain ware	1,084 35
Furniture	92 25	Rubber goods	4,271 05
Glass plate and mirrors	2 80	Miscellaneous	702 30
Leather, mostly calf, kid, and morocco, and hides	40,928 10	Total increase	55,419 42
Machinery, cutlery, and other hardware	2,917 55		

RÉSUMÉ.

Articles showing decrease	$352,781 82
Articles showing increase	55,419 42
Total decrease	297,362 40

R. W. WOLFFSOHN,
Consul.

UNITED STATES CONSULATE,
Mannheim, September 10, 1884.

COMMERCE AND NAVIGATION OF RUSSIA.

REPORT BY CONSUL-GENERAL STANTON, OF ST. PETERSBURG.

The exports of European Russia amounted during the month of July o 54,025,000 rubles; the imports—merchandise received—58,004,000 rubles, and merchandise imported for consumption in the interior, 47,316,000 rubles.

During the first seven months of the present year the exports were 301,258,000 rubles; the imports being, general commerce, merchandise received, 295,102,000 rubles, and special commerce, merchandise delivered for consumption in the interior, 295,639,000 rubles. The details of this trade are given in following tables:

EXPORTS.

	Gold rubles.
Alimentary articles	177,904,000
Raw materials	112,385,000
Animals	7,086,000
Manufactures	3,383,000
Total	301,258,000

GENERAL IMPORTS.

	Gold rubles.
Alimentary articles	68,740,000
Raw materials	170,413,000
Animals	193,000
Manufactures	55,756,000
Total	295,102,000

SPECIAL IMPORTS.

	Gold rubles.
Alimentary articles	68,120,000
Raw materials	171,729,000
Animals	193,000
Manufactures	54,997,000
Total	295,639,000

TRADE BY COUNTRIES.

The following table shows the countries participating in this trade:

Countries.	Exports.	Imports.
	Rubles.	*Rubles.*
Germany	101,757,000	112,476,000
Great Britain	80,731,000	65,849,000
France	21,595,000	11,436,000
Austria-Hungary	17,135,000	18,703,000
Belgium	12,947,000	5,944,000
Turkey	2,310,000	4,081,000
Holland	24,239,000	81,613,000
Norway and Sweden	9,422,000	
Other countries	31,122,000	
Total	301,258,000	295,102,000

Germany is credited with 30 per cent. of the total export trade; Great Britain, 26½ per cent.; Holland, 8 per cent., and France with 7 per cent. Of the import trade, 38 per cent. falls to Germany, 22 per cent. to Great Britain, and 4 per cent. to Austria.

EXPORTS BY PORTS.

The exports from the Baltic ports amounted to 126,583,000 rubles, or 42 per cent. of the total exports of European Russia; those from ports of the Black Sea and Sea of Azof amounted to 81,404,000 rubles, or 27 per cent.; those from ports of the White Sea to 6,751,000 rubles, and from the frontier 86,520,000 rubles, or 28½ per cent. of all exports.

CEREAL EXPORTS.

The decrease in the export of wheat, rye, and barley, as compared with 1883, continued in July. During this month the former fell off 46,000 chetverts, the second 59,000 chetverts, and the latter 24,000 chetverts, as compared with the same month of the preceding year. Oats, on the contrary, have constantly increased. Increasing in July nearly 500,000 chetverts, the excess for the seven months amounts to 2,434,000 chetverts, and determines the total increase of 1,110,000 chetverts in cereals as compared with 1883. The export of wheat decreased 2,235,000 chetverts.

Alimentary exports.—In the category of alimentary articles the following articles decreased, viz: Butter, 20,500 poods; spirits distilled from grain, 97,000,000 depees; and caviar, 3,200 poods. Leaf tobacco and refined sugar on the contrary increased, the former 32,347 poods.

Exports of raw materials.—Among raw materials, wood decreased in July, but exhibits an increase of 2,249,000 rubles for the first seven months of 1884. Crude flax, uncleaned wool, tar, oil cakes, animal charcoal, bones, skins, bristles, and mineral illuminating oils all show an increased export to that of 1883. But there is, on the contrary, a de-

crease in the export of oleaginous cereals, spun flax and tow, hemp, crude and spun, leather, washed wool, raw silk, and furs.

Cattle export.—The export of cattle exceeds that of 1883, but that of other animals decreased.

Exports of manufactures.—Among manufactures the exports of linen stuffs fell off 1,118,000 arsheens in July, and the export for the first seven months is behind that of the preceding year.

ANALYSIS OF IMPORTS.

Turning now to the imports we find that 44 per cent. thereof come by water, and 56 per cent. by land.

In the category of alimentary products there is, as compared with the same period of the preceding year, an increase in fish, especially salted herrings (which show an increase of 900,000 poods), coffee, tea, smoking tobacco and cigars, and a decrease in salt (about 2,000,000 poods), rice, raw sugar, and wines.

Among raw materials the principal increase is to be found in plants, metals, copper, brass (steel and iron excepted), indigo and dyes in general, chemical and pharmaceutical products, and a decrease in mineral oils, coal, coke, turf, spun-cotton, wools, leather, and raw cotton, of which 1,660,000 poods less were entered at the customs in 1884 than in 1883.

Among manufactures showing an increased import the following may be mentioned: Horological products, jute bags and tissues, linen yarns, and machines. Silks, woolen and cotton goods decreased.

Gold and silver.—The movement of gold and silver, both in coins and bars, was as follows: Exports, 2,689,000 rubles, being a decrease of 7,533,000 rubles; imports, 3,177,000 rubles, being a decrease of 99,000 rubles, as compared with the same period of 1883.

Customs receipts.—The receipts of the customs resulting from the trade of European Russia during the first seven months of the present year are as follows: The duties on imports produced 34,005,370 (gold) rubles, or 373,984 rubles less than in 1883. The export duties yielded 149,156 rubles (gold), being an increase of 18,230 rubles. From various sources the receipts were 10,142 rubles gold, and 860,078 rubles paper, or 8,920 gold and 19,779 paper rubles more than in the preceding year.

NAVIGATION.

From January 1 to August the foreign arrivals at ports in European Russia were 6,790 sailing and steam vessels, with a total tonnage of 1,555,866, being an increase over 1883 of 256 vessels and 123,369 tons. Of this total 3,523 vessels, with 833,350 tons, entered with cargoes, against, in 1883, 3,376 vessels, with 773,047 tons. In ballast there were entered 3,267 vessels, with 722,516 tons, against 2,958 vessels, with 659,440 tons, in 1883.

The following table gives the arrivals for the last two years:

Ports.	With cargoes.				Arrivals.			
	1883.		1884.		1883.		1884.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
White Sea	69	7,525	63	7,741	400	63,826	457	84,339
Baltic Sea	2,469	517,500	2,542	542,705	3,916	796,289	4,251	866,661
Black Sea and Sea of Azof	838	248,022	918	282,904	2,018	570,382	2,092	604,866
Total	3,376	773,047	3,523	833,350	6,334	1,432,497	6,790	1,555,866

There were registered in ports of European Russia, from January 1 to August 1, 6,669 departures of both sailing vessels and steamers, whose total tonnage amounted to 1,443,675 tons, being an increase of 509 vessels and 83,347 tons over the same period of 1883.

The following table gives the details of this trade:

Ports.	With cargoes.				Departures.			
	1883.		1884.		1883.		1884.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
White Sea	537	59,073	583	68,266	539	59,162	584	68,285
Baltic Sea	3,325	653,337	3,749	716,325	3,686	744,962	4,068	789,732
Black Sea and Sea of Azof	1,399	466,612	1,504	491,811	1,935	550,204	2,017	585,658
Total	5,261	1,179,022	5,836	1,276,402	6,160	1,354,328	6,669	1,443,675

The share taken in the foreign trade by the Russian flag is shown in the following table:

Lading.	Arrivals.				Departures.			
	1883.		1884.		1883.		1884.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
With cargoes	413	90,928	417	99,504	744	111,833	789	125,026
With ballast	147	19,608	148	19,390	69	9,917	53	8,572
Total	560	110,536	565	118,894	813	121,750	842	133,598

The coasting trade is represented by 12,119 arrivals, steam and sailing vessels, with a total tonnage of 1,067,321 tons.

The following tables show the details of this trade:

Ports.	With cargoes.				Arrivals.			
	1883.		1884.		1883.		1884.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
White Sea	168	7,330	312	11,349	411	17,279	815	32,852
Baltic Sea	1,656	110,335	1,819	131,862	1,968	127,315	2,156	151,727
Black Sea and Sea of Azof	5,946	611,148	6,601	697,141	8,807	818,206	9,148	882,742
Total	7,770	728,813	8,732	840,352	11,186	962,788	12,119	1,067,321

Ports.	With cargoes.				Departures.			
	1883.		1884.		1883.		1884.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
White Sea	177	7,315	247	10,330	245	12,578	370	21,039
Baltic Sea	1,003	96,482	1,281	102,204	1,995	127,453	2,186	152,272
Black Sea and Sea of Azof	6,756	674,679	6,946	719,744	9,100	829,337	9,450	898,402
Total	8,036	778,476	8,474	839,778	11,340	979,368	12,006	1,071,235

EDGAR STANTON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
St. Petersburg, October 20, 1884.

TRADE AND COMMERCE OF AMSTERDAM.

REPORT BY CONSUL ECKSTEIN.

I have the honor to transmit herewith a tabular statement showing the navigation of the port of Amsterdam during the year ending December 31, 1883, and a statement of the declared value of the exports from this consular district to the United States during the year ending June 30, 1884.

FOREIGN COMMERCE.

Being well aware that the most important and valuable information conveyed in annual consular reports consists of the accounts they contain respecting the foreign commerce and trade within the districts or countries wherein the consuls reside, that the Regulations require and that the Department expects comprehensive information on the subject, I sincerely deprecate the existence, in this country, of circumstances over which I have not the least control, and which form so insurmountable an obstacle in the way of the performance of my duty in this regard.

The official statistics of the imports and exports of this country are not alone published too late and in form so peculiar as to render them unavailable for purposes of my annual reports, but they are, when published, universally held to be so entirely untrustworthy as not to deserve or to justify me that I should bestow upon them the time and labor required to formulate and embrace them in my reports.

These statistics, as they are published here for any one year, translated and transcribed, would fill a number of the usual-sized volumes of Consular Commercial Reports, such as are published by the Department, without, however, containing or giving the value of either imports or exports.

The Chamber of Commerce at Rotterdam alluded to this subject at great length in its last yearly report, and I here quote a few remarks from what is said with reference thereto by the said chamber of commerce:

> We are of the opinion that a considerable portion of the statistical figures regarding our trade are quite unreliable, and consequently useless, and that the pains taken and the expense incurred in obtaining them might be made serviceable in a more profitable manner by collecting statements that we do not now possess.
>
> The only figures that in our opinion have any value at all are those of the general imports; so that those of imports for consumption, general exports, free exports, and transits, &c., might well be entirely dispensed with.
>
> As we already showed in our last annual report, the statements of exports have no value, because the ship-brokers do not or cannot furnish reliable figures for the same.
>
> In the hurry with which everything is done at the present time goods arrive for shipment at the last moment before the departure of steamers.
>
> It is therefore not possible before steamers leaving port to have correct statements of the goods shipped, or manifests in readiness, such as are required by the custom-house officers, in accordance with their instructions.
>
> It is consequently usual that fictitious statements are in the hurry of the moment given to these officers, and on such data the statistics of the exports are prepared by the finance department.
>
> It would be folly to require measures to be taken to obtain more accurate data.
>
> It has been done elsewhere, as if it were done for the sake of statistics; but in reality, in order thereby to create a means of revenue, by levying "statistical dues."

But it would be quite wrong to take obstructive measures that might reduce the exports, merely for the sake of securing correct information as to what is really exported.

Statistics of the traffic are of importance, it is true, but the traffic itself is of much greater importance.

We should therefore desire to retain only the statistics of general imports, but that then these should be made as complete as possible.

From some of the principal firms of merchants and brokers have been obtained the material and information upon which are based the following statements relating to and showing the course and volume of the trade in some of the most important articles at Amsterdam or in the Netherlands during the year 1883, and as otherwise indicated.

COFFEE.

The trade in coffee during the year, though somewhat variable and unsteady as to demand and prices, has on the whole been far more animated than for a series of years last past, and generally satisfactory to those interested therein in this market and country.

The imports in 1883 by the Trading Society, Government agents, amounted to 1,069,800 bales, and those by other firms and persons to 638,230 bales, or in all to 1,708,030 bales for the Netherlands.

Of this quantity 1,585,445 bales consisted of Java, Padang, and Macassar coffee, and the balance of Santos, Rio, and West Indian produce.

The following is a statement showing the total imports of coffee in the ports of the Netherlands from 1874 to 1883, both inclusive, and the increase in the imports of 1883 over those of each year since 1874, viz:

Years.	Quantity.	Increase in 1883.
	Bales.	*Bales.*
1874	1,062,777	645,253
1875	1,337,036	370,994
1876	928,278	779,752
1877	1,397,526	310,504
1878	1,132,679	575,354
1879	1,130,695	577,335
1880	1,363,959	344,071
1881	1,261,896	446,134
1882	1,274,803	433,227
1883	1,708,030	.....

The stock on hand in the ports of the Netherlands, by the Trading Society and other parties, on the 31st of December of each year, from 1874 to 1883, was as follows, viz:

Year.	Bales.	Year.	Bales.
1874	393,902	1879	376,692
1875	662,836	1880	498,392
1876	321,694	1881	559,544
1877	474,892	1882	563,011
1878	404,454	1883	790,443

The following statement shows the prices ruling for good ordinary Java and good ordinary Brazil coffee at the end of each year, from 1866 to 1883, inclusive, in Dutch currency, per half kilogram, viz:

Years.	Java.	Brazil.	Years.	Java.	Brazil.
	Cents.	*Cents.*		*Cents.*	*Cents.*
1866	41 to 42	28 to 30	1875	57½ to 58	49 to 51
1867	37½ to 38	26 to 28	1876	54½ to 55	46 to 47
1868	36½ to 37	.....	1877	54	47 to 47½
1869	33½ to 34	25	1878	40 to 41	31 to 32
1870	35 to 35½	29 to 30	1879	43 to 43½	40 to 41
1871	43 to 43½	40 to 41	1880	33½	33 to 33½
1872	49 to 49½	44 to 45	1881	34½	26½
1873	65½ to 66	62 to 63	1882	27	21
1874	55½ to 56½	45 to 47	1883	35½	32

The re-exports of coffee from this port or consular district to the United States in 1883 amounted to 36,640 bales, as against less than 200 bales in 1882, and represented a value of $580,267, a fact which presumably may be ascribed to the recently removed discriminating duty.

The imports and deliveries in the eight principal markets of Europe and in the six principal markets of the United States are stated to have been, from 1878 to 1883, as follows, viz:

Years.	Imports.			Deliveries.		
	Europe.	United States.	Total.	Europe.	United States.	Total.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
1878	329, 280	141, 816	471, 096	341, 130	143, 900	485, 030
1879	379, 820	190, 968	562, 788	375, 470	190, 968	566, 438
1880	375, 220	171, 834	547, 054	348, 820	174, 121	522, 941
1881	406, 420	192, 299	599, 419	369, 570	195, 700	565, 270
1882	394, 670	208, 638	603, 308	387, 720	211, 288	599, 008
1883	*479, 749	*206, 147	685, 896	*442, 713	*205, 058	647, 771

*About.

TOBACCO.

Regarding the trade in Sumatra tobacco at Amsterdam in 1883, and the probable result of the crops of same year, I made a special report early in January last, as certain growers of tobacco, importers and manufacturers of cigars, in the United States, appear to take a great interest in what transpires here relating to transactions in this article.

My statements in the report referred to as to the quantity and quality of the crop of 1883 are now proven to have been very nearly correct.

According to the closest estimate that can now be made there have been about 100,000 bales Sumatra tobacco raised in 1883, being a very few thousand bales less than the yield of the previous year.

In quality it turned out to be generally somewhat inferior, and did not contain as large a proportion of the dark-leafed sorts, so particularly favored and in demand, as in former years.

Nearly three-fourths of the crop were disposed of at public sale here before the month of August, and, as represented to me, at very high figures.

The exports of Sumatra tobacco from Amsterdam to the United States from July 1, 1883, the date when the higher rate of duty on certain leaf

tobacco under our new tariff became payable, to June 30, 1884, amounted to 3,527 bales, as against about 17,000 bales which found their way to our ports and markets during the previous six months, or from January 1 to June 30, 1883. Several hundred bales of Java tobacco have also recently been shipped from here to the United States.

In no other article of commerce have transactions proved so animated and profitable in this market in 1883 and up to this time as in Sumatra tobacco; and no product of the colonies has within many years last past returned such handsome results or has given anything like equal satisfaction to the cultivator or importer.

Regarding the condition of the present year's crop or the prospect of its probable yield no reports have reached me as yet.

IMPORTS OF AMERICAN TOBACCO.

In former years transactions in Maryland tobacco were far more important in the ports and markets of this country than they are nowadays.

Wholesale operations in the article have greatly fallen off, and what remains of the trade is now more in the hands of consumers or manufacturers, by whom it is imported directly. It is said to be on this account that really reliable figures showing the actual quantity imported can hardly be obtained.

The imports of seed-leaf are represented to have considerably increased during the year 1883, but many importations take place in such a way or under such circumstances as to cause the quantities imported to remain unknown.

Manufacturers here seem to begin to find it more to their advantage to procure their supplies of seed-leaf tobacco directly or through importers from the United States than to order or import them from Bremen, as they practiced to do of late years.

The following statement shows the imports and sales, so far as ascertained, at Amsterdam and Rotterdam during the year 1883:

Stock, imports, and sales.	Maryland.	Seed-leaf.	Virginia and Kentucky.
	Hhds.	*Cases.*	*Hhds.*
Stock, January 1, 1883	1,270	395	82
Imported in 1883	7,723	5,400	1,387
Sold in 1883	7,371	5,525	1,336
Stock, December 31, 1883	1,622	270	133

GRAIN.

The business in grain cannot be said to have been very lively during the past year (1883), and the imports consisted for the greater part of cargoes purchased abroad by manufacturers and large consumers, both here and in the northern provinces of this country, to meet their requirements, whilst but little was imported for the account of speculators.

The imports of wheat were smaller than in the previous year (1882).

The principal supplies came from India, Southern Russia, the Danube, and the Baltic, whilst but little was furnished from the United States in consequence of the high range of prices in that country.

Notwithstanding the scarcity of offers from that part of the world, otherwise so important for the trade in wheat, and notwithstanding the

bad crop of winter wheat in that country, the trade continued to be languid, whilst consumers were continually enabled to supply their wants from other countries of export.

Not till the autumn, when, owing to the incessant rain, some uneasiness was created as to the result of the harvest in Western Europe, did any demand arise for speculation, causing a rise of about 15 florins per last, which was, however, soon reduced when the weather improved and the reports of the harvest began to be more favorable.

Not only was the said temporary rise in the end entirely lost, but, in consequence of the large stock of inferior kinds of wheat throughout the whole of Western Europe, prices fell so considerably during the two last months of the year that they reached a standard so low as had not been known for several years.

The stock here and in the Zaan district on December 31, 1883, was 7,129 lasts.

The imports of rye were greater during the past year, particularly from Southern Russia, the Danube, and America, but little was, however, imported from Northern Russia. The greater part was destined for the provinces, whilst a small portion found its way to the Rhine.

The trade in this kind of grain was likewise languid, and the fluctuation in prices of little importance during the first six months of the year.

Owing to serious complaints about the rye crop in Germany and to the heavy rains in this country there arose a greater demand in July and August, causing prices to rise about 15 to 20 florins per last; but when the weather improved and very favorable reports arrived about the harvest in Southern Russia, which produced an unusually heavy and white quality, and also in some measure through the fall in prices of other kinds of grain, prices soon fell back to their previous moderate standard, from which but little fluctuation can be recorded during the last months.

Stock on hand here and in the Zaan district on the 31st of December, about 6,628 lasts.

Business in barley was not very brisk during the past year, which must be mainly attributed to the unfavorable ratio between the prices of the rough material and the manufactured article, as well as to the limited demand for fodder; prices which in the early part of the year had a firm tendency, afterwards fell considerably in consequence of increased offers and little demand, but recovered themselves a little at the close of the year.

The imports consisted chiefly of sorts brought hither from the Danube and the Black Sea, both direct and via Antwerp and Rotterdam, whilst considerable parcels of inferior kinds were exceptionally brought here from the Upper Rhine.

The stock here and in the Zaan district on the 31st of December amounted to 462 lasts.

But little was done in oats. In the early part of the year prices ruled firm, but owing to more important arrivals from Russia and but limited demand they gradually fell in the latter part of the year.

Stock on hand here and in the Zaan district on the 31st of December, 137 lasts.

The trade in maize was of more importance than in the previous year, and prices fluctuated continually under the influence of New York quotations.

The expectations of a large crop in America caused prices to fall in the autumn, in consequence of which a further increase of sales for fod-

der was to be anticipated. The less favorable reports about the result of the crop in the United States caused a pretty considerable rise in that country, without a corresponding improvement in prices throughout Europe, the Danube and Southern Russia being enabled by a plentiful crop fully to meet the demand of Western Europe, so that the state of the market was even more dull than brisk.

Stock on hand here and in the Zaan district on the 31st of December, 170 lasts.

There was hardly any business in buckwheat, this article being more and more supplanted by buckwheat grits.

The small imports came almost entirely from France.

Prices throughout followed the course of prices of grits.

No stock on hand on the 31st of December.

The imports of buckwheat grits were less than usual, owing to the moderate demand for this article and to the favorable result of the harvest of buckwheat in this country.

In the early part of the year prices ruled firm and even rose a little, but the fresh imports from Russia at once produced a dull tone and prices almost continually fell, and not inconsiderably, up to the end of the year.

Only in July was a small but short-lived improvement perceptible. Stock on hand here and in the Zaan district on the 31st of December, 1,499 lasts.

Statement showing the stock of grain on hand, in lasts, at the end of each of the last ten years, at Amsterdam, Zaan, Rotterdam, Schiedam, and Dordrecht.

Years.	Wheat.	Rye.	Barley.	Oats.	Buck-wheat.	Buck-wheat grits.	Maize.
1874	3,656	15,700	5,473	125	132	.....	.....
1875	8,104	27,466	4,531	110	112	1,180	.....
1876	6,931	17,137	9,503	142	235	1,207	1,151
1877	6,346	32,108	5,131	190	207	3,620	97
1878	5,779	34,712	7,321	410	338	1,268	1,205
1879	3,164	22,163	5,978	392	36	2,658	311
1880	7,555	5,919	4,949	501	304	1,222	3,721
1881	5,771	5,973	6,046	1,129	536	976	259
1882	7,040	10,563	4,027	338	243	2,965	88
1883	11,458	10,064	5,298	410	25	1,598	595

TIN.

The tin trade was not very favorable during the year 1883, as it depended entirely on consumption, without hardly any purchases for speculation.

The few speculators that appeared in the market have almost all sustained losses.

The consumption continued to increase during the past year, and the greater production of the Straits than in former years was almost all absorbed by consumption, so that the total stock, both in England and here, at the close of the year was almost the same as on the 31st of December, 1882.

The further course of business in this article will greatly depend on the confirmation of the reports that the production in the Straits continues to increase. This opinion seems to be gaining ground, however, and speculators consequently keep back.

The production of Banca and Billiton tin was about the same as in previous years.

Transactions in Banca and Billiton tin in Holland in 1883 are shown by the figures in following statement:

BANCA.

Stock, imports, &c.	Blocks.	Tons.
Stock on hand December 31, 1882	114, 664	3, 558
Imported in 1883	144, 397	4, 481
Total	259, 061	8, 039
Sold and exported in 1883	135, 713	4, 211
Leaving stock on hand December 31, 1883	123, 348	3, 828

BILLITON.

Stock on hand December 31, 1882	107, 089	3, 480
Imported in 1883	92, 672	3, 014
Total	199, 761	6, 494
Sold and exported in 1883	105, 963	3, 444
Leaving stock on hand December 31, 1883	93, 798	3, 050

The prices during 1883 were, on the 31st of each month, for Banca and Billiton tin in this market, per 50 kilograms, as follows:

Month.	Banca.	Billiton.	Month.	Banca.	Billiton.
	Florins.	*Florins.*		*Florins.*	*Florins.*
January	56⅛	56	July	57½	56⅛
February	57	56	August	57	56
March	58⅛	57⅛	September	57⅛	56⅛
April	59½	58	October	57	56
May	58	57⅛	November	53½	52
June	57⅛	57	December	52⅛	51½

AMERICAN BACON.

The prices of American bacon having risen considerably during the last six months of the year 1882, even in excess of the market price of inland bacon, there was no stock on hand on the 1st of January, 1883, either here or at Rotterdam.

In December, 1882, the market in America, especially for deliveries in the first months of 1883, fell considerably, which fact awakened an inclination to purchase, both for speculation and consumption, so that various parcels were imported here in the early part of the year; but it soon became evident that the prices paid were still too high, consequently the consumption remained but trifling as compared with the importation, causing prices to fall even far below the quotations of the American market.

There was a further decline in the American market in the months of June and July, which again gave immediate rise to some business, but with little result, as the consumption did not increase, so that there was a great loss on all the parcels imported.

In the months of September and October prices in America were again notably lower, causing the consumption to revive in some measure; but this was soon after counteracted by a considerable reduction

in the price of inland pork, which is preferred to American, particularly in the provinces.

In November the market in America ruled firmer, which induced speculators to give new orders, and this proved to result in a considerable rise in prices in December, without, however, awakening much inclination to purchase.

The consumption continued to be but limited, caused by the low prices of inland produce, without much probability of an increase in the present year.

The imports in 1883 amounted to about 1,500,000 kilograms, against 6,000,000 in 1879 and 8,000,000 in 1880.

Speculators in bacon are gradually withdrawing from the market, mainly owing to the prohibited importation into Germany and France.

The examination instituted by the Netherlands Government at the Agricultural School at Wageninger as to the trichinæ was very satisfactory, notwithstanding which a careful control is recommended on every parcel imported.

DAIRY PRODUCTS.

My frequently repeated efforts during a long period of time to obtain correct information regarding the quantity and value of the dairy products of this country for any one of the last past years proved fruitless until lately, when I succeeded to secure what I consider as reliable a statement as is possible to procure, showing what the same amounted to in 1883. According thereto there was produced in the Netherlands in that year—

Articles.	Quantity.	Estimated average value.	Total value.
		Florins.	*Florins.*
Cream butter ..... kilograms..	24, 600, 000	1. 30*	31, 980, 000
Cheese ..... do....	34, 500, 000	0. 50*	17, 250, 000
Milk (used in the manufacture of artificial butter and for ordinary consumption) ..... liters..	53, 500, 000	0. 05†	2, 675, 000
Value total dairy product in 1883	.....	.....	51, 905, 000

* Per kilogram. † Per liter.

The value of the exports of butter and cheese from the Netherlands to different countries is set down in a recent publication emanating from the Society of Statistics for the Netherlands for the years 1877 to 1882, inclusive, as follows:

Year.	Butter.	Cheese.
	Florins.	*Florins.*
1877	18, 489, 000	10, 718, 000
1878	20, 938, 000	10, 379, 000
1879	29, 161, 000	8, 885, 000
1880	28, 841, 000	9, 820, 000
1881	32, 899, 000	8, 906, 000
1882	38, 500, 000	9, 100, 000
1883	30, 197, 600	8, 148, 800

The publication from which the above statement of the exports of butter and cheese is copied speaks of "eetbare boter" (eatable butter), which, as is explained to me, includes all the "butterine" or artificial butter exported, as well as "genuine cream butter."

The value of the exports of butter and cheese, as represented by the foregoing figures, is arrived at by estimating and calculating butter at 80 florins per 100 kilograms and cheese at 35 florins per 100 kilograms.

SUGAR.

The course of the trade in this article in the markets of this country has within a few years last past undergone a very great change, inasmuch as the formerly so extensive imports of colonial sugar are now reduced to a mere minimum.

At the present time the refineries here handle almost exclusively beet-root sugar.

The following statement shows the quantity of beet-root sugar worked up in the refineries of the Netherlands during each of the eleven first months of the past thirteen years, viz:

Foreign product.		Inland or home product.	
Year.	Amount.	Year.	Amount.
	Kilograms.		*Kilograms.*
1871	35, 000, 000	1871	12, 750, 000
1872	31, 750, 000	1872	13, 000, 000
1873	24, 750, 000	1873	17, 250, 000
1874	14, 000, 000	1874	16, 500, 000
1875	26, 000, 000	1875	16, 000, 000
1876	29, 000, 000	1876	19, 000, 000
1877	48, 250, 000	1877	9, 000, 000
1878	50, 500, 000	1878	9, 000, 000
1879	74, 500, 000	1879	10, 000, 000
1880	79, 000, 000	1880	11, 000, 000
1881	90, 000, 000	1881	9, 000, 000
1882	83, 000, 000	1882	11, 000, 000
1883	99, 000, 000	1883	5, 000, 000

The stock of raw sugar on hand on the 31st of December of the years 1880, 1881, 1882, and 1883, and the imports and exports during each of the same years, being the product of the East and West Indies and other countries, were at Amsterdam, at Rotterdam, and other places, as shown by the following statements, viz:

Stock and imports of raw sugar.

Raw sugar.	Amsterdam.				Rotterdam.			
	1880.	1881.	1882.	1883.	1880.	1881.	1882.	1883.
	Kilos.	*Kilos.*	*Kilos.*	*Kilos.*	*Kilos.*	*Kilos.*	*Kilos.*	*Kilos.*
Stock	100, 000	250, 000	750, 000	250, 000	.....	1, 000, 000	500, 000	1, 250, 000
Imports	17, 750 000	15, 250, 000	11, 000, 000	5, 000, 000	9, 000, 000	9, 000, 000	9, 250, 000	8, 250, 000

Exports of raw sugar.

From Amsterdam.		From Rotterdam, &c.	
Year.	Quantity.	Year.	Quantity.
	Kilograms.		*Kilograms.*
1880	8, 295, 630	1880	9, 265, 255
1881	3, 574, 656	1881	8, 622, 878
1882	3, 256, 543	1882	11, 076, 940
1883	2, 201, 725	1883	7, 338, 261

EXPORTS OF REFINED SUGAR.

The exports of refined sugar of every description at Amsterdam and Rotterdam, during the past four years, or from 1880 to 1883, inclusive, are shown in the following statement, viz:

Amsterdam.		Rotterdam.	
Year.	Estimated quantities.	Year.	Estimated quantities.
	Kilograms.		*Kilograms.*
1880	53, 750, 000	1880	16, 000, 000
1881	47, 500, 000	1881	18, 250, 000
1882	43, 500, 000	1882	19, 500, 000
1883	46, 500, 000	1883	20, 000, 000

The stock of colonial and beet-root sugar in entrepots was 26,160,023 kilograms on December 15, 1883, as against 20,638,203 kilograms on December 15, 1882, 12,052,000 kilograms on December 15, 1881, and 5,950,000 kilograms on December 15, 1880.

The countries whither Holland principally exported raw sugar, both colonial and beet-root product, have been hitherto Belgium, England Sweden and Germany.

The more important exports of refined sugar are generally made to England, whither nearly three-fourths of the article shipped from Holland in 1883 found its way.

Of the other countries to which refined sugar is exported, are Belgium, Germany, Switzerland, Sweden and Norway.

Price quotations for raw and refined sugar, stated in florins, Dutch currency, per 100 kilograms, for 1883.

RAW SUGAR.

Description.	January 1.	March.	July.	December 31.
Java No. 19 to 20	31 to 31½	31½ to 32	32 to 32½	.....
Java No. 15 to 18	29½ 30½	29½ 31	30½ 31½	.....
Java No. 10 to 14	26 29	26½ 29½	27 30	.....
Java No. 7 to 9	23 25	23½ 25½	24 26	.....
Java under No. 7	20 22	20½ 22½	21 23	.....
Surinam, cloud	27 29	24 28	24 26	25 to 26
Surinam, brown	25 27	20 26	22 24	23 24
Beet-root, second class	23 ..	24 ..	24 ..	20 20½
Beet-root, third class	24 24½	24½ 25	25 ..	22 ..

REFINED SUGAR.

Loaf sugar, superfine	31 to 31½	30½ to 31	30½ to 31	29 to 29½
Loaf sugar, first sort	30 ..	29 29½	28½ 29	27½ 28
Crushed, superfine	30 30½	29½ 30	30 30½	28 28½
Crushed, first sort	29½ ..	28½ 29	28 28½	27 27½
Crushed, second sort	28 ..	27½ 28	27 27½	26 26½

RICE.

The trade in this article in the markets of this country, in 1883, proved to be far more animated, and generally more satisfactory, than for several years previous thereto.

The entire imports in the Netherlands footed up 1,005,000 bales, whereof 769,000 bales came to Amsterdam and the Zaan district, and 236,000 bales were landed at Rotterdam and other places on "the Maas."

The imports during the past five years, or from 1879 to 1883, inclusive, and the stock on hand at the end of each of the said years, are shown by the following statement, viz:

Imports.		Stock on hand.	
Years.	Quantity.	Years.	Quantity.
	Bales.		*Bales.*
1879	1,062,050	1879	27,600
1880	977,100	1880	8,335
1881	1,522,600	1881	8,543
1882	1,023,000	1882	7,374
1883	1,005,000	1883	4,000

About three-fourths of the total imports came here during the period above stated, from Rangoon and Bassein, and the balance from Java, Saigon, Siam, &c.

PETROLEUM.

The imports at Amsterdam in 1883 consisted of 211,300 barrels of American petroleum, as against 189,537 barrels in 1882. At Rotterdam were imported 194,736 barrels in 1883, as against 293,128 barrels in 1882, showing a decrease of 66,629 barrels for 1883 of the imports into the country when compared with what the same amounted to in 1882.

It is represented to me that transactions in this so important article of commerce, and especially so to us, are here being most injuriously affected, and that many firms here have stopped operations therein in consequence of what are termed here irregular and reprehensible manipulations indulged in by certain speculators in the article in the United States.

There was no Russian petroleum imported into this country in 1883; but the attention of interested parties is directed to the product of that country, concerning the quality of which most favorable reports have reached here.

It is held that as soon as the still existing difficulties, arising from lack of facilities for transportation from the oil regions in Russia to the Black Sea, are overcome, competition with the American article will set in.

COTTON.

The imports of cotton at Amsterdam and Rotterdam amounted in 1883 to 73,171 bales American and to 11,256 bales East India product, against 36,099 bales American and 7,227 bales East India cotton in 1882, and 52,619 bales American and 24,631 bales East India cotton in 1881.

The imports of American cotton have been larger in 1883 than during any year since 1871, when they reached the figure of 119,976 bales.

American cotton would find a far more important market in this country—at least so I am assured—if it were not for the so-called "speculative" or "future" operations so extensively carried on at home, and which are irreconcilable with the mode and manner, the regular and steady way, in which people here prefer to do business.

FLOUR.

The imports of American wheat flour, which in 1882 were already less considerable than in former years, have not increased during the year 1883, as I am informed.

The rather generally satisfactory European crops prevented more important imports, as during the greater part of the year American mills could not successfully compete, it is said, with the local mills.

From an estimate handed to me it appears that the total quantity of wheat flour imported into the Netherlands in 1883 amounted to about 30,000,000 kilograms, of which quantity about 13,750,000 kilograms were imported at Amsterdam.

I regret that I have not been able to ascertain what exact proportion of this quantity came from the United States.

I could only learn that the imports of bakers' flour from the United States were not as large as in previous years, whereas of certain other sorts and lower-grade flour they were far more extensive.

Complaints of importers here regarding transportation of the article on American railways from the West to the seaboard are heard no longer. On the contrary, it is represented to me that in 1883 all transportation took place most promptly and satisfactorily.

From a report published by the Society of Statistics for the Netherlands, the value of the imports of wheat flour from all countries into Holland was each year, from 1877 to 1882, about as follows, viz:

	Florins.
1877	6,371,000
1878	7,179,000
1879	8,241,000
1880	9,587,000
1881	9,388,000
1882	6,100,000

LUMBER.

The trade in lumber, in 1883, resulted very unsatisfactorily, and more particularly so as regards sawed, planed, and grooved lumber, and sales were generally slow and at declining prices, although the imports during the year were a great deal smaller than in 1882.

American pitch pine is gaining in favor in the markets of Holland, and the consumption thereof increasing. Several cargoes were brought here and sold within the year, but the prices realized were only in accordance with the general depressed state of the lumber market.

The imports of American staves were rather large during the year, but great part of them found no buyers, in consequence, chiefly, of the decreased consumption of the article for the herring fisheries, where recently large quantities of empty margarine tierces were utilized for coopering purposes or herring packing.

There are, however, many complaints from parties interested in the fisheries, according to which it would appear that the practice of making barrels or tons for the use in question out of the material referred to must soon be discontinued, in which case the demand for American staves of proper size and quality may increase again.

OLEOMARGARINE.

Concerning the imports of and transactions in oleomargarine in the Netherlands, in 1883, I made a special report very early in the present year, and which I would now supplement only by stating that the trade of the current year, as to extent of operations in the article, promises to result even more important than last year.

Whether it will prove as favorable to the manufacturer of the oil seems doubtful, as the prices so far in this year have generally ranged considerably lower than in 1883.

The new law of the State of New York, passed, I believe, in April last, prohibiting the manufacture of artificial butter, attracts great attention on the part of the parties here engaged in the import and trade of margarine and in the manufacture of butterine, and the matter of "how it will be likely to operate," or "what will be its effect on the trade in general," is closely watched and much discussed by them.

IMPORTS OF AMERICAN MANUFACTURES.

Articles the product of the industry of the United States are being imported into this country in great number and in varying quantities. While the demand for and consumption of some is from time to time either increasing or slackening, others are being constantly introduced, and sometimes with success.

If it were possible to procure the information it would be gratifying to me to be able to furnish a full statement, showing all the articles and the quantity and value of each imported here annually, but under existing circumstances it cannot be done.

From data handed to me by a gentleman here, who represents several American firms, I am in position to offer the following statements on the subject, viz:

School furniture.—During the last three years American school desks (system, Andrews) are imported into this country, and new schools in great number are being supplied with the double-folding or stationary-top desks, each for two pupils.

School directors are well pleased with them, and business is doing well. School slates and crayons used here are almost exclusively of American manufacture. School-board erasers have been introduced and give promise of coming into general use.

Spokes.—Hickory and oak spokes are imported and sold in large quantities; and so are handles of different descriptions, oars, and other wooden ware.

Railway material.—A few years ago chilled cast-iron wheels for street railway cars were first brought here, and now they are in actual use on some of the lines of the Amsterdam Street Railway Company and Groninger Tramway. These wheels are said to be giving much satisfaction, and there is a prospect, as I am informed, that other railway companies in this country may adopt their use and give large orders for them.

Steam-engines.—A few Westinghouse steam-engines and the Armington engine, both having many excellent points for driving dynamos for electric lightning, are, I am told, now in working here.

American leather belting.—This is acknowledged by all engineers here to be superior in quality to any elsewhere manufactured, and a larger import of it is prevented in consequence of the price of it being so much higher than the domestic and other foreign product.

American shafting.—This is imitated by German manufacturers and sold at so low a rate as to make it difficult to import the American article.

Asbestos materials.—There is quite a trade in asbestos steam-packing, chill-board, and in asbestos fire-proof paints, &c. Asbestos roofing, as a substitute for tin, shingle, and other roofing, is, as yet, quite new and but little in use here, but I am informed that recent experiments made on sheds and buildings of the Dutch Rhenish Railway Company have

proven so satisfactory that now there is quite a prospect that this, to me represented to be cool and strong roofing, will be used more and more in this country in the near future.

Governors.—A new governor, called the Gardner's compensation governor, adapted to every variety of steam engines, has recently been successfully introduced here.

Agricultural implements.—In this connection I would call attention to my report on agricultural machinery, implements, and tools of June 6, 1884, as it contains full information as to such as are held to be most suitable for the wants of this country or for one or another reason most in demand, &c.

There is, as I understand, a good trade here in such American farming implements as shovels, hoes, weeders, forks, rakes, &c., but little or nothing to be done at present in mowers, reapers, twine binders, and such like other machines.

Douglas pumps, rotary pumps, &c.—These are imported and sold to a rather considerable extent, at least so I hear.

Wood-working machinery.—Circular and band saws and shaping and planing machines have been introduced here, and it is expected they will gain in favor and a demand for them created.

EXPORTS TO THE UNITED STATES.

As is shown by the statement herewith submitted the value of declared exports from this consular district to the United States amounted to $2,653,553.54 during the year ending June 30, 1884, as against $4,296,446.17, representing same for the year ending June 30, 1883.

There has been a decrease in the value of the exports every quarter during the latter as compared with the former year, amounting in the aggregate to $1,642,892.63.

At the same time this is really no correct indication of the course and volume of the export trade between this country and the United States. The exports being so extensive during the year ending June 30, 1883, was something unusual and unprecedented, arising from the large shipments of the single article of Sumatra tobacco during that period in order to enter same at our ports prior to the higher rate of duty on leaf-tobacco becoming payable.

The declared invoice value of the shipments of Sumatra tobacco from here to the United States during the year ending June 30, 1883, reached the figure of $2,881,069.28, whereas it is covered by the amount of $593,677 for the year ending June 30, 1884.

It may be interesting to be shown how greatly the exports from this consular district to the United States have changed and increased within the past ten years; therefore the following statement, viz:

Exports year ending June 30—	Amount.	Exports year ending June 30—	Amount.
1875	$460,518 70	1880	$1,107,410 85
1876	284,479 12	1881	617,567 41
1877	295,790 19	1882	2,200,171 90
1878	216,020 63	1883	4,296,446 17
1879	331,080 99	1884	2,653,553 54

A rather important and noteworthy feature relating to the exports from here during the year 1883–'84 consists hereof—that live stock for breeding purposes is being far more largely purchased and shipped by persons and firms in the United States than has ever been the case before.

From July 1, 1883, to June 30, 1884, invoices were certified at this

office, embracing the shipment of 1,172 head of cattle, valued at $119,357; average cost per head, about $102.

This, however, is far from representing correctly the whole number of cattle purchased at and shipped from Groningen, Friesland, and North Holland by Americans, as I am well aware that several hundreds of heads have been shipped for which no invoices were presented at this office for certification, as should have been done, and which, presumably, were certified at some other consulate, as should not have been done.

NAVIGATION OF THE PORT OF AMSTERDAM.

A glance at the figures in the statement herewith transmitted, representing the navigation or shipping business of this port in 1883, and which shows that only two American vessels visited it during the entire year, involuntarily directs one's attention to the present unsatisfactory state of our merchant marine and impresses one with the deplorable fact of the great decline, almost total extinction, of our participation in the foreign carrying trade.

It may be going too far back when I state that in 1823 this port was visited by 102 American vessels, but I do so only to present to the reader the more than striking contrast between then and now, as in that year just 100 more vessels carrying the American flag arrived at Amsterdam than did in 1883.

When considering that the commerce between the Netherlands and the United States, both imports and exports, has during a few years last past so largely increased, and that the facilities for ships and vessels of any size to come to Amsterdam have of late years been so greatly improved, the existing condition of things, or rarity of the arrival of an American vessel, is the more surprising.

Whether the recent changes in our shipping laws will bring about a revival remains to be seen, as, so far, I cannot observe any indications of it in the ports of this country.

If they do not—and I doubt that they will, as they seem to me to be hardly far-reaching or radical enough—it is to be hoped that further means or remedies will speedily be discovered or devised and applied which will result in removing the cause or causes underlying and from which arise the now prevailing and so much to be deprecated state of affairs.

While the shipping of this port, as to the number of arrivals and departures, slightly declined in 1883 as compared with the three last preceding years, it shows, nevertheless, an increase in the tonnage for the same period.

This is accounted for by the fact that fewer sailing vessels entered and cleared during the latter year than formerly did, and about proportionably more steamers, which generally have a greater tonnage capacity.

The freight rates are said to have ruled exceptionally low during the entire year, and the year's result of the carrying trade proved extremely unsatisfactory, disappointing many of the parties therein interested or engaged.

There have been no noteworthy changes in the charges for canal dues or in the regulations for its navigation, excepting that the charges on steamers running regular trips have recently been slightly reduced.

Harbor dues or port charges at Amsterdam remain the same as for several years past.

THE FRANCO-DUTCH COMMERCIAL CONVENTION, ETC.

After long-continued and several times interrupted negotiations, a treaty of commerce and for other purposes was concluded between the

Netherlands and France on the 19th of April, 1884. The same has been ratified by the Government of this country, under date of July 20, 1884, but so far not by the French Government.

There is, however, not the least doubt entertained here that this will be done at an early day, after which the treaty or convention will immediately go into effect.

Copies of the treaty, in the French language, and of the act of the States General ratifying the same, are contained in the Staatsblad (Government journal) of the Kingdom of the Netherlands, accompanying this report.

D. ECKSTEIN,
Consul.

UNITED STATES CONSULATE,
Amsterdam, September 30, 1884.

Statement showing the navigation of the port of Amsterdam in 1883, *the number of vessels entered and cleared, their tonnage and nationality, and distinguishing sailing vessels from steamers.*

Nationality.	Arrivals.					
	Sailing vessels.		Steamers.		Total.	
	Number.	Tons.	Number.	Tons.	Number.	Tons.
Netherlands	221	94,478	353	282,329	574	376,807
British	53	42,906	518	296,774	571	339,680
Norwegian	198	72,630	53	23,859	246	96,489
Swedish	14	6,617	19	12,845	33	19,462
Danish	18	3,233	2	1,335	20	4,568
German	39	11,647	37	20,336	76	31,983
Russian	31	11,472	1	367	32	11,839
Italian	21	15,861	.....	.....	21	15,861
Spanish	.....	.....	19	21 334	19	21,334
United States	2	2,435	.....	.....	2	2,435
Austrian	.....	.....	1	851	1	851
French	2	253	2	1,946	4	2,199
Greek	1	361	5	4,086	6	4,447
Total	595	261,893	1,010	666,062	1,605	927,955

Nationality.	Departures.					
	Sailing vessels.		Steamers.		Total.	
	Number.	Tons.	Number.	Tons.	Number.	Tons.
Netherlands	227	92,371	346	285,934	573	378,305
British	54	43,326	518	296,724	572	340,050
Norwegian	187	69,693	55	25,180	242	94,873
Swedish	17	8,590	19	12,683	36	21,273
Danish	19	3,594	2	1,335	21	4,929
German	38	13,698	33	18,228	71	31,926
Russian	29	10,322	1	367	30	10,689
Italian	22	17,016	.....	.....	22	17,018
Spanish	.....	.....	20	22,406	20	22,406
United States	2	2,435	.....	.....	2	2,435
Austrian	.....	.....	1	698	1	698
French	3	335	1	941	4	1,276
Greek	2	873	5	4,289	7	5,162
Total	600	262,255	1,001	668,785	1,601	931,040

CENSUS OF PORTO RICO, YEAR 1883.

REPORT BY COMMERCIAL AGENT HUBBARD.

BAYAMOU, INCLUDING SAINT JOHN'S.

Sex.	Nationality.		Total.	Civil state.			Ages.						
	Spanish.	Foreign.		Not married.	Married.	Widowed.	Under 1 year.	1 to 7.	8 to 15.	16 to 20.	21 to 25.	26 to 30.	31 to 40.
White:													
Males	29,501	360	29,861	22,490	6,337	1,034	2,647	4,343	5,008	3,189	3,076	2,876	3,119
Females	28,224	334	28,558	21,200	6,027	1,331	2,422	4,370	4,815	3,249	3,456	2,544	2,907
Colored:													
Males	32,032	389	32,421	25,262	5,794	1,365	2,590	4,864	4,739	3,743	3,444	3,358	3,238
Females	34,098	339	34,437	27,290	5,750	1,397	2,353	5,122	5,125	4,047	3,804	3,633	3,359
Total	123,855	1,422	125,277	96,242	23,908	5,127	10,012	18,699	19,687	14,228	13,780	12,411	12,623

Sex.	Ages.									Educational qualifications.			
	41 to 50.	51 to 60.	61 to 70.	71 to 80.	81 to 85.	86 to 90.	91 to 95.	96 to 100.	Over 100 years.	Read and write.	Read only.	Cannot read or write.	Total.
White:													
Males	2,121	1,652	919	446	241	137	57	27	3	6,807	5,502	17,552	58,419
Females	1,932	1,227	814	418	210	110	58	24	2	6,548	4,506	17,504	
Colored:													
Males	2,580	1,808	1,160	438	231	140	53	29	6	4,811	3,788	23,822	66,858
Females	2,757	2,000	1,180	465	301	205	59	23	4	4,811	4,596	25,530	
Total	9,390	6,687	4,073	1,767	983	592	227	103	15	22,477	18,392	84,408	125,277

Census of Porto Rico, year 1899—Continued.

ARECIBO.

Sex.	Nationality.		Total.	Civil state.			Ages.						
	Spanish.	Foreign.		Not married.	Married.	Widowed.	Under 1 year.	1 to 7.	8 to 15.	16 to 20.	21 to 25.	26 to 30.	31 to 40.
White:													
Males	43,157	88	43,245	29,345	12,071	1,829	4,121	6,631	5,805	4,476	5,672	5,630	4,043
Females	42,200	68	42,268	28,374	11,748	2,146	3,987	6,035	5,566	4,790	5,771	5,589	3,660
Colored:													
Males	15,542	81	15,623	11,286	3,740	597	1,816	2,698	2,292	1,431	1,774	1,504	1,235
Females	14,745	70	14,815	10,191	3,874	750	1,454	2,712	2,235	1,265	1,884	1,568	1,286
Total	115,644	307	115,951	79,196	31,433	5,322	11,378	18,076	15,888	11,962	15,101	14,291	10,224

Sex.	Ages.									Educational qualifications.			Total.
	41 to 50.	51 to 60.	61 to 70.	71 to 80.	81 to 85.	86 to 90.	91 to 95.	96 to 100.	Over 100 years.	Read and write.	Read only.	Cannot read or write.	
White:													
Males	3,557	1,707	851	415	174	83	41	30	9	7,549	2,576	33,120	85,513
Females	3,608	1,687	847	405	203	82	51	26	11	4,193	1,873	36,202	
Colored													
Males	1,292	734	413	190	132	66	29	12	5	1,553	943	13,127	30,438
Females	1,098	475	398	207	113	79	23	18	10	1,112	782	12,921	
Total	9,555	4,553	2,509	1,217	622	310	144	86	35	14,407	6,174	95,370	115,951

Census of Porto Rico, year 1883—Continued.

AGUADILLA.

Sex.	Nationality.		Total.	Civil state.			Ages.						
	Spanish.	Foreign.		Not married.	Married.	Widowed.	Under 1 year.	1 to 7.	8 to 15.	16 to 20.	21 to 25.	26 to 30.	31 to 40.
White:													
Males	37,676	139	37,815	26,186	10,050	1,579	1,899	4,947	5,674	4,932	4,432	4,668	3,865
Females	35,271	59	35,330	23,828	10,108	1,394	1,651	5,329	6,300	4,628	4,325	3,886	3,837
Colored:													
Males	7,788	50	7,838	5,924	1,454	460	848	1,159	903	951	786	701	709
Females	7,011	48	7,059	5,491	1,288	330	635	1,073	1,073	935	738	567	626
Total	87,746	296	88,042	61,429	22,850	3,763	5,033	12,508	13,950	11,446	10,281	9,822	8,537

Sex.	Ages.									Educational qualifications.			Total.
	41 to 50.	51 to 60.	61 to 70.	71 to 80.	81 to 85.	86 to 90.	91 to 95.	96 to 100.	Over 100 years.	Read and write.	Read only.	Cannot read or write.	
White:													
Males	2,975	1,798	1,514	509	248	192	130	25	7	6,629	2,702	28,493	78,145
Females	2,728	1,576	875	316	214	83	53	24	5	3,168	2,489	29,673	
Colored:													
Males	577	507	345	181	127	81	43	17	3	1,163	784	5,891	14,897
Females	490	313	299	117	84	44	38	21	6	919	781	5,399	
Total	6,770	4,094	3,033	1,123	673	400	264	87	21	11,870	6,716	69,456	88,042

MAYAGUEZ.

Sex.	Nationality.		Total.	Civil state.			Ages.						
	Spanish.	Foreign.		Not married.	Married.	Widowed.	Under 1 year.	1 to 7.	8 to 15.	16 to 20.	21 to 25.	26 to 30.	31 to 40.
White:													
Males	37,307	371	37,678	25,561	10,327	1,790	2,562	6,518	5,874	4,103	4,525	4,180	3,431
Females	35,486	284	35,770	24,140	10,261	1,369	2,361	5,769	5,231	4,179	4,452	4,087	3,408
Colored:													
Males	25,292	210	25,502	18,569	6,033	900	1,451	3,963	4,642	3,005	2,643	2,643	2,665
Females	24,374	259	24,633	18,010	5,901	722	1,390	4,669	5,414	2,527	2,098	2,098	1,990
Total	122,459	1,124	123,583	86,280	32,522	4,781	7,764	20,919	21,161	13,814	13,718	13,241	11,494

Sex.	Ages.									Educational qualifications.			Total.
	41 to 50.	51 to 60.	61 to 70.	71 to 80.	81 to 85.	86 to 90.	91 to 95.	96 to 100.	Over 100 years.	Read and write.	Read only.	Cannot read or write.	
White:													
Males	2,392	1,918	970	512	330	213	101	41	8	13,448	2,851	21,879	73,448
Females	2,302	2,039	871	445	320	173	87	40	6	8,988	1,892	24,890	
Colored:													
Males	1,618	1,245	652	400	239	132	78	48	27	4,552	1,218	19,732	50,135
Females	1,472	1,135	799	371	190	139	69	61	30	4,223	1,013	19,397	
Total	7,783	6,337	3,292	1,728	1,079	657	335	190	71	31,211	6,974	85,398	123,583

Census of Porto Rico, year 1899—Continued.

PONCE.

Sex.	Nationality.		Total.	Civil state.			Ages.						
	Spanish.	Foreign.		Not married.	Married.	Widowed.	Under 1 year.	1 to 7.	8 to 15.	16 to 20.	21 to 25.	26 to 30.	31 to 40.
White:													
Males	41,548	654	42,202	30,357	10,084	1,761	2,789	6,780	7,606	4,540	4,366	4,329	4,339
Females	37,729	275	38,004	26,441	9,682	1,881	3,498	6,010	5,963	4,265	3,709	3,540	3,809
Colored:													
Males	37,079	574	37,653	28,608	7,661	1,384	3,027	4,853	5,391	4,436	4,173	3,785	3,589
Females	37,448	290	37,738	30,341	6,037	1,360	2,969	8,140	7,054	3,567	3,229	3,077	2,893
Total	153,804	1,793	155,597	115,747	33,464	6,386	12,283	25,782	26,014	16,808	15,475	14,731	14,629

Sex.	Ages.								Educational qualifications.			Total.
	41 to 50.	51 to 60.	61 to 70.	71 to 80.	81 to 85.	86 to 90.	91 to 95.	96 to 100.	Over 100 years.	Read and write.	Read only.	Cannot read or write.	
White:													
Males	3,609	1,949	1,051	428	224	105	75	6	3	12,441	8,023	21,738	80,206
Females	2,970	2,159	1,005	563	219	173	104	29	1	8,258	5,871	23,875	
Colored:													
Males	3,541	2,097	1,445	698	346	189	113	29	8	5,995	5,054	27,804	75,891
Females	2,583	2,087	1,061	540	264	156	91	15	4	2,695	3,119	31,981	
Total	12,703	8,292	4,562	2,229	993	623	382	79	11	29,389	22,066	104,848	156,597

GUAYAMA.

Sex.	Nationality.		Total.	Civil state.			Ages.						
	Spanish.	Foreign.		Not married.	Married.	Widowed.	Under 1 year.	1 to 7.	8 to 15.	16 to 20.	21 to 25.	26 to 30.	31 to 40.
White:													
Males	23,401	180	23,581	16,496	5,824	1,261	1,588	3,882	3,480	2,954	2,669	2,242	2,265
Females	21,718	121	21,839	14,872	5,769	1,198	1,437	3,585	3,483	2,900	2,401	2,238	2,013
Colored:													
Males	23,821	151	23,972	17,432	5,790	741	1,683	3,379	3,517	2,911	2,841	2,357	2,571
Females	24,274	138	24,412	16,854	6,616	942	1,657	3,578	3,715	3,146	2,652	2,507	2,585
Total	93,214	590	93,804	65,654	24,009	4,142	6,365	14,424	14,195	11,911	10,563	9,344	9,434

Sex.	Ages.									Educational qualifications.			Total.
	41 to 50.	51 to 60.	61 to 70.	71 to 80.	81 to 85.	86 to 90.	91 to 95.	96 to 100.	Over 100 years.	Read and write.	Read only.	Cannot read or write.	
White:													
Males	2,002	1,262	544	310	168	122	58	23	12	9,150	2,985	11,446	45,420
Females	1,685	1,126	452	213	142	92	56	10	6	6,517	2,677	12,645	
Colored:													
Males	1,917	1,266	630	378	216	130	104	62	10	5,012	2,158	16,802	48,384
Females	1,867	1,294	626	396	206	81	58	36	8	3,736	2,382	18,294	
Total	7,471	4,948	2,252	1,297	732	425	276	131	36	24,415	10,202	59,187	93,804

Census of Porto Rico, year 1883—Continued.

HUMACAO.

Sex.	Nationality.		Total.	Civil State.			Ages.						
	Spanish.	Foreign.		Not married.	Married.	Widowed.	Under 1 year.	1 to 7.	8 to 15.	16 to 20.	21 to 25.	26 to 30.	31 to 40.
White:													
Males	18,972	567	19,539	13,946	4,405	1,188	1,993	2,466	2,764	2,035	2,067	1,825	2,190
Females	18,326	468	18,794	13,281	4,169	1,044	2,128	2,569	2,628	1,990	2,034	1,855	1,753
Colored:													
Males	20,177	1,250	21,427	16,219	4,272	936	1,586	2,612	2,855	2,239	2,130	2,341	2,365
Females	21,410	1,285	22,695	16,170	5,247	1,278	2,243	2,961	2,894	2,302	2,368	2,526	2,480
Total	78,885	3,570	82,455	59,616	18,393	4,446	7,950	10,608	11,141	8,566	8,599	8,547	8,788

Sex.	Ages.									Educational qualifications.			Total.
	41 to 50.	51 to 60.	61 to 70.	71 to 80.	81 to 85.	86 to 90.	91 to 95.	96 to 100.	Over 100 years.	Read and write.	Read only.	Cannot read or write.	
White:													
Males	1,852	1,466	487	186	89	82	20	11	6	5,936	3,072	10,531	88,333
Females	1,684	1,380	411	165	81	73	21	17	5	4,720	2,838	11,236	
Colored:													
Males	2,338	1,489	840	298	160	106	39	22	7	3,834	2,822	14,771	44,122
Females	2,204	1,515	636	242	138	112	40	30	4	3,313	2,172	17,210	
Total	8,078	5,850	2,374	891	468	373	120	80	22	17,803	10,904	53,748	82,455

RECAPITULATION.

Sex.	Nationality.		Total.	Civil state.			Ages.						
	Spanish.	Foreign.		Not married.	Married.	Widowed.	Under 1 year.	1 to 7.	8 to 15.	16 to 20.	21 to 25.	26 to 30.	31 to 40.
White:													
Males	231,562	2,359	233,921	164,381	59,098	10,442	17,599	35,567	36,211	26,229	26,807	25,753	23,252
Females	218,954	1,609	220,563	152,136	58,064	10,363	17,487	33,667	33,981	26,001	26,142	23,739	20,880
Colored:													
Males	161,131	2,705	164,436	123,300	34,753	6,383	13,001	23,527	24,339	18,716	17,791	16,740	16,372
Females	163,360	2,429	165,789	124,347	34,663	6,779	12,701	28,255	27,500	17,789	16,777	16,158	15,218
Aggregate	775,607	9,102	784,709	564,164	186,578	33,937	60,785	121,016	122,036	88,735	87,517	82,390	75,722

Sex.	Ages.									Educational qualifications.			Total.
	41 to 50.	51 to 60.	61 to 70.	71 to 80.	81 to 85.	86 to 90.	91 to 95.	96 to 100.	Over 100 years.	Read and write.	Read only.	Cannot read or write.	
White:													
Males	18,508	11,752	6,336	2,806	1,474	934	482	163	48	61,951	27,711	144,259	454,484
Females	16,909	11,144	5,275	2,525	1,389	786	430	170	36	42,392	22,146	156,025	
Colored:													
Males	13,863	9,046	5,485	2,583	1,391	844	458	219	61	26,223	16,767	121,449	330,225
Females	12,475	8,819	4,999	2,338	1,296	816	378	204	66	20,309	14,798	130,682	
Aggregate	61,755	40,761	22,095	10,252	5,550	3,380	1,748	756	211	150,872	81,422	552,415	784,709

GORHAM E. HUBBARD,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Mayaguez, Porto Rico, October 13, 1884.

STATISTICS OF ST. PETERSBURG.

REPORT BY CONSUL-GENERAL STANTON.

In St. Petersburg there are 8,929 lots with, and 341 without, buildings; including the dwellings and shops on the canals and rivers there are in the first category 9,714 improved building sites.

There are 5,920 unimproved lots, with a total area of 6,891,718 square fathoms, as follows:

	Fathoms.
Vegetable gardens	2,067,767
Gardens and parks	2,752,165
Used for storing goods	477,183
Uncultivated land	1,594,603

There are 11,280 brick and stone houses, 10,256 wooden houses, 776 buildings of wood and stone, and 2 of other materials, which are inhabited; 5,297 brick and stone, 11,707 wooden, 302 composite, and 23 houses of other material, are uninhabited.

Of the inhabited houses, two-thirds have but two stories. The cellar and ground-floor lodgings form one-sixth of the cubic contents of the inhabited buildings.

About one-fifth of the inhabited buildings are not roofed with sheet-iron.

From 1869 to 1884 the number of the inhabited buildings increased 11 per cent.; the number of one-story buildings decreased 7 per cent.; that of two-storied ones increased 16 per cent., whilst that of houses with five stories and more was trebled.

Forty-eight and seven-tenths per cent. of the houses belonging to private, and 64 per cent. of those belonging to administration individuals have water laid on; of the former, 12 per cent. of the courts and 21 per cent. of the lodgings, and of the latter 26 per cent. of the courts and 37 per cent. of the lodgings, are provided with gas.

In 1,703, or one-fifth of the inhabited houses, the stairways are lighted with gas, and two-thirds of the private and three-fourths of the government courts are paved.

There are 39,800 water-closets and 56,140 privies without the houses. The cleaning of the courts, buildings, and cess-pools costs 1,869,023 rubles ($934,511) annually; 7,975 houses, or about 90 per cent., are insured for a total amount of 511,368,123 rubles ($205,684,061), the annual premium being 1,239,683 rubles ($619,841). This is exclusive of the market places and bazars.

In 25,255 dwellings, 18 per cent. only being insured, the movable possessions were insured for 216,147,025 rubles ($108,073,512).

The buildings of St. Petersburg, including the market-places, bring in an annual rental of 43,224,804 rubles ($21,612,402).

Some private houses contain from 100 to 200 lodgings, and have 1,000 tenants; others, again, have but 1 lodging and less than 5 tenants. Fifty-two houses produce each more than 50,000 rubles ($25,000) annually; 48 more than 40,000 rubles ($20,000); 97 more than 30,000 rubles ($15,000); and 259 less than 100 rubles ($50).

In 1881 St. Petersburg had 861,303 inhabitants, being 200,000, or 29 per cent., more than in 1869.

But 253,047 were born in St. Petersburg, the remainder having immigrated from the neighboring provinces.

The day of the census there were 30,000 soldiers in St. Petersburg.

To 490,000 adult immigrants there were but 95,000 persons born in St. Petersburg. Males predominate over females, there being 122 of the former to 100 of the latter. The average of age ranges between 16 and 30, more than 341,000, or 40 per cent., being between these years. One hundred and eight thousand five hundred children are of an age to attend school, and 22,000 are without even elementary education. About one-half of the adult population is unmarried.

But 15 per cent. of the population belong to the Orthodox church. Twenty thousand are not Christians. Of these, 16,826 are Jews, 2,927 are Mohammedans, and 23 are heathens. Eighty-five per cent. of the population speak Russian as their mother tongue; 64 per cent. thereof have an elementary education—43 per cent. among the Tartars, and 61 per cent. among the Russians. The Fins and Esthonians rank next to foreigners in this respect. Servants are mainly females, there being 5 women to 1 man employed. There are 22,000 officials and office servants, 33,000 soldiers, 6,000 employés in the police and judicial departments, 8,000 persons devoted to medical pursuits, 13,000 teachers, 3,000 devoted to science, literature, and art, 2,000 clergymen, 11,000 persons living on their income, somewhat more than 11,000 from pensions; 470,000 persons occupy themselves with trade and commerce, either in dependent or subordinate capacities.

Of the manufacturers of ink and shoe-blacking 52.4 per cent. are Jews, as are 43.4 per cent. of the commission merchants, 40.7 per cent. of the money-lenders, 18.4 per cent. of the watchmakers, 16.1 per cent. of the publicans, 13.3 per cent. of the furriers, and 12.4 per cent. of the merchants.

EDGAR STANTON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
St. Petersburg, November 6, 1884.

NOTES.

New Swiss tariff.—Under date of October 7, 1884, Consul Gifford, of Basle, writes that by virtue of a recent decree of the Federal Council, the new Swiss tariff (published in full in Consular Reports, No. 46) will go into operation on the 1st day of January, 1885.

Trade of Japan for July, 1884.—Minister Bingham, under date of October 29, 1884, furnishes the following: The value of commodities exported from Japan during July, 1884, was 2,759,209 yen, and the value of the imports 2,693,473 yen. The amount of import duties collected for the month was 120,426 yen, and of the export duties 107,123 yen.

The value of specie and bullion exported within the month was 344,151 yen, and the value thereof imported 642,259 yen.

Persian money.—Consul-General Benjamin, under date of September 8, submits the following table for reducing krans and shahees into dollars and cents, at ruling rates of exchange at Teheran, Persia, in September, 1884:

[One shahee equal to 0.00\frac{8}{11}$; one cent equal to $1\frac{4}{11}$ shahee; one dollar equal to $6\frac{4}{10}$ krans.]

Krans.	Shahees.	Value in United States money.	Krans.	Shahees.	Value in United States money.
	5	$0 04$\frac{4}{11}$	9	... .	$1 45$\frac{4}{11}$
	10	0 08$\frac{8}{11}$	10	.....	1 61$\frac{9}{11}$
	15	0 12$\frac{8}{11}$	15	.....	2 41$\frac{8}{11}$
1	20	0 16$\frac{4}{11}$	20	.....	3 22$\frac{1}{11}$
	25	0 20$\frac{8}{11}$	25	.....	4 0 $\frac{7}{11}$
	30	0 24$\frac{8}{11}$	30	.....	4 83$\frac{7}{11}$
	35	0 28$\frac{7}{11}$	35	.....	5 64$\frac{6}{11}$
2	40	0 32$\frac{8}{11}$	40	.....	6 45$\frac{5}{11}$
	50	0 40$\frac{10}{11}$	50	.....	8 06$\frac{4}{11}$
3	60	0 48$\frac{12}{11}$	100	.....	16 12$\frac{8}{11}$
4	80	0 64$\frac{10}{11}$	200	.....	32 25$\frac{6}{11}$
5	100	0 80$\frac{8}{11}$	250	.....	40 32$\frac{1}{11}$
6	120	0 96$\frac{7}{11}$	500	....	80 64$\frac{2}{11}$
7	140	1 12$\frac{5}{11}$	1,000	.....	161 29$\frac{4}{11}$
8	160	1 29$\frac{3}{11}$	10,000	.....	1,612 90$\frac{10}{11}$

Changes in the Bahama tariff.—Consul McLain submits the following: The following changes went into effect July 1, 1884:

Article.	New duty.	Old duty.
Flour	60 cents per barrel, and 10 per cent. ad valorem in addition	$1.20 per barrel.
Kerosene oil	8 cents per gallon	15 cents per gallon.
Other oils	18 cents per gallon	15 cents per gallon.
Molasses	4 cents per gallon	5 cents per gallon.

Additions to free list.

1. Diving apparatus.
2. Fertilizers.
3. Monumental tablets.
4. Mills, or parts thereof, used for the manufacture of salt.
5. Machines for sawing lumber.
6. Tombstones, and railings to be used for grave inclosures.
7. Wire fencing.

American trade with Königsberg.—Consular Agent Gädeke furnishes the following statistics:

The commercial intercourse between Königsberg and the United States during the year 1883 shows a further decrease in the principal articles of importation, petroleum and lard. It is not possible to give a definite statement of the import of these articles, as the greatest portions thereof find their way through England, Antwerp, Hamburg, and Bremen to East Prussia.

The importation of petroleum, the chief article of import from the United States, which had already decreased in 1882, shows again an important decrease; the export of petroleum from here to Russia having nearly ceased altogether. The importation was 50,060 barrels, against 72,743 barrels in 1882 and 90,439 barrels in 1881.

The direct importation of lard and bacon ceased entirely in 1883.

The chief article of export to the United States is rags, namely, 15,015 tons, against 13,970 tons in 1882 and 13,873 tons in 1881. The prices were lower than in 1882.

The Brazilian cancer cure.—Under date of October 24, 1884, Consul Atherton, of Pernambuco, transmits the following additional information concerning the new cancer cure:

I have the honor to refer to my former dispatch (published in Consular Reports, No. 46) and in connection therewith to state that there is now under treatment with the new remedy a woman who was operated upon eight years ago for cancer. It having reappeared, they have been treating it with the new remedy, and it promises to be a complete success, but Dr. Bandeira does not wish to report the case until the cure is complete. The case is being treated with the plant freshly gathered.

I think the medical men rather incline to the opinion that the treatment is more likely to succeed if the plant is used freshly gathered. When I get the report of the case I will forward it.

NOTE.—In this connection it may be stated that on receipt by the Department of State of the sample of cancer-cure medicine from the consul at Pernambuco, it was immediately turned over to the the Marine Hospital Service in Washington, that being considered the best means of securing a speedy official test as to its efficacy in the treatment of the disease for which it is said to be a specific.

American trade in Calcutta.—Consul-General Leonard, under date of October 27, 1884, transmits the following information concerning American trade in Calcutta:

American goods and manufactures have not been sold in India to the extent that it is believed that they might be, owing to the difficulty of getting them into the market here. The habits of the people and the methods of business here are so different, and payments so much slower than in America, that new articles cannot be got into general use without special and persistent effort, involving a degree of personal attention and an amount of expense that American manufacturers and shippers have not been willing to incur. Under such circumstances it is not likely that an American market can be opened here by any of the means hitherto tried, but an American firm of merchants long established in Boston and here, Messrs. C. C. Bancroft & Co., propose, in connection with Mr. Henry Ballantine, who has done business throughout India for American houses, to try by giving special personal attention to the introduction of American articles of all kinds, and by making the same efforts for the introduction of such goods as would be required of the manufacturers and shippers themselves, to bring the merits of American articles before the consumers here, and to give closer attention than has yet been given to placing American goods in fair competition with those from other countries. This is the only indication that I have yet seen of any real effort to increase American trade here.

Boiler explosions in Germany.—Under date of November 16, 1884, Consul Mosher, of Sonneberg, submits the following statistics concerning boiler explosions in Germany:

During the years 1877–1882, both inclusive, there were in the German Empire 101 steam boiler explosions, making an average of 17 explosions (nearly) per year. Bu during the year 1883, for which the official statistics have lately been published, there were only fourteen explosions, although there were many more boilers in operation that year than during the six preceding years.

During the six years mentioned (1877–1882) 294 persons were either killed or wounded by these explosions, making an average of 49 yearly; but in the year 1883 the casualties included 55 persons, of whom 23 were instantly killed or died within 48 hours; 8 were seriously and 24 slightly wounded.

Taking the seven years together there have been 115 explosions, the attendant calamities including 349 persons, of whom 127 died within 48 hours, 74 were seriously and 148 slightly wounded.

The causes of the explosions were as follows: In 32 cases, lack of water; in 32 cases, local weakness in the iron; in 22 cases, defective construction; in 12 cases, too high steam pressure; in 6 cases, carelessness; in 3 cases, boiler stones; in 7 cases, actually bad or old iron; and in one case the cause could not be assigned.

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UNITED STATES CONSULAR REPORTS.

AGRICULTURAL MACHINERY IN THE SEVERAL COUNTRIES.

REPORTS

FROM THE

CONSULS OF THE UNITED STATES

ON

AGRICULTURAL MACHINERY

IN THEIR

SEVERAL DISTRICTS,

IN ANSWER TO

A CIRCULAR FROM THE DEPARTMENT OF STATE.

No. 48.—December, 1884.

PUBLISHED BY THE DEPARTMENT OF STATE, ACCORDING TO ACT OF CONGRESS.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1885.

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*A valuable report on agricultural machinery in the Argentine Republic, by Consul Baker, of Buenos Ayres, was received too late to appear in this number of the consular reports. It will be published in No. 49.

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CONSULAR REPORTS

ON

COMMERCE, MANUFACTURES, ETC.

No. 48.—December, 1884.

DEPARTMENT CIRCULAR.

DEPARTMENT OF STATE,
Washington, February 20, 1884.

To the consular officers of the United States:

GENTLEMEN: When the advanced condition of agriculture in the United States is taken into consideration, especially that phase of the industry covered by the application of machinery to every movement from the cutting of the forest and the plowing and sowing of the land until the product thereof is marketed; and taking into further consideration the fact that American agricultural machinery, implements, and all the variety of small ware which goes to fill up the husbandman's tool-house, are not surpassed, to say the least—for durability and neatness, strength and lightness, for a happy combination of the useful and the beautiful, and a fine adaptability to the purposes for which they were designed—by the manufactures of any other nation, it appears to the Department that, by proper efforts on the part of American manufacturers, the foreign market for this class of products might be greatly enlarged.

In extenuation of the relatively small export of American agricultural implements and machinery, being only $3,888,000 during the last fiscal year, it may be said that up to the present our manufacturers have been fully employed in supplying the home demand. Recently, however, our manufacturers have begun to reach out for foreign trade, and the many inquiries and requests made for statistics and information concerning the wants and supplies of the several countries, in this regard, are indicative of a general desire for the introduction of their products abroad.

It is scarcely necessary to say that much of ultimate success in trade depends upon proper initiatory effort, and that much valuable time and money, spent in experimentary efforts, may be saved by proper guidance and a clear understanding of the wants and requirements of the several markets. In this connection consular aid is of the first importance, and is hereby most cordially invited for the guidance and in-

formation of our manufacturers of agricultural implements, machinery, and tools, together with that class of articles usually grouped with "hardware," but which is largely used in connection with agriculture.

Instead of propounding a series of interrogatories, which at best could not be expected to embrace more than generalities, the Department leaves the consuls free to prepare their reports in their own way, feeling confident, from previous responses in regard to other industrial statistics, that the work will be well and satisfactorily accomplished.

It may, however, be suggestively mentioned that among the principal points which should be embraced in answers hereto are the following:

The extent of territory embraced in reports, and its division into farms, whether large or small.

The nature and productiveness of the soil.

The agricultural condition thereof, and mode of cultivation.

The agricultural tools, implements, machinery, &c., employed.

The extent to which advanced appliances prevail. Whether foreign tools, implements, and machinery are used; if so, the countries from which they are imported, the different sorts imported from each country, and the satisfaction relatively given.

How American manufactures compare with others.

How the manufactures of the several countries are introduced and placed on the market, whether by agents, partners, branch houses, &c.

The best manner of introduction.

The peculiarities of the business habits, and systems among agriculturists, as well as among the people resident in towns and cities.

The system on which purchases are made—time or cash.

The handling of the manufactures from the time of landing until they are in the farmer's possession.

How they are imported—by sail or steam, direct or indirect; the advantages possessed by other countries in this regard.

The tastes of the farmers in regard to machinery, tools, and implements; whether they like neatness of finish and general stylish make up, or whether strength and durability are not associated in their minds with heaviness and a certain amount of crudeness.

The advisability of having our manufactures finished in any particular style; whether it would be advantageous to have the names of manufacturers and their places of manufacture, together with lables, illustrated catalogues, &c., in the language of the country.

The efforts which have been made by the manufacturers of other countries for the enlargement of their sales; how long such efforts have been made, and the results thereof.

The names of men or firms who import agricultural machinery and implements, and who are engaged, wholly or partly, in the business of selling the same, and the nature of their business connections with the countries of manufacture.

The names of reliable men or firms who are now engaged, or who would be willing to engage, in the importation and sale of American agricultural implements, &c.

The necessary information concerning the expenses incident to importation, tariffs, taxes, charges, &c.; whether the manufacturers of other countries enjoy any advantages which are not enjoyed by our manufacturers, and the nature thereof.

In fact, everything which will enable American manufacturers of agricultural implements and machinery, steam, horse, and hand power, to enter into competition with the manufacturers of other nations for that

share in the world's trade to which the superiority of their manufactures entitles them.

Especial attention is invited to those peoples who still adhere to primitive modes of agriculture and who cannot be expected to adopt our advanced appliances—in fact, could not or would not use them under any consideration, yet who might be induced to adopt what might be termed compromise implements, being simple enough in manufacture to satisfy their prejudices or fixed primitive notions and yet greatly in advance of their present appliances.

Where a market gives promise of sufficient inducement, our manufactures will doubtless adapt themselves to requirements, even if such requirements necessitate a diviation from present advanced styles.

I am, gentlemen, your obedient servant,

JOHN DAVIS,
Assistant Secretary.

CONTINENT OF EUROPE.

HOW TO INTRODUCE AMERICAN AGRICULTURAL IMPLEMENTS INTO THE MARKETS OF EUROPE.

REPORT BY VICE-CONSUL SILLCOX, OF BREMEN.

Your circular to the consular officers relating to agricultural machinery in Europe leads me to contribute for your use a few points of interest for all manufacturers in the United States catering to the foreign trade.

Having had an experience of thirteen years introducing and establishing a demand for American agricultural machinery and implements on the continent of Europe, visiting annually every province from Norway to Africa and England to Asia, I would advise manufacturers in the United States who desire to build up a trade in Europe to do so with a direct representative, establishing an office centrally located on the continent of Europe, where attention may be given to the wants and demands of such a trade.

It is a generally established fact that all our tools and smaller machines which are constructed of iron, steel, and wood combined, have preference over those of all other countries; but of machines constructed of iron, such as engines and thrashing machines, chaff-cutters, plows, cultivators, harrows, &c., preference seems to be is given to the English and continental makers. The finish may not be quite as elaborate as the American, but they are solid, and adapted to the manner of tilling the soil over here. In order to establish a trade with any of the machines or implements, the American makers must ascertain if they can supply at prices ruling the market delivered in Europe, and then make what slight changes are required. I have long ago adopted the plan of never recommending to the trade any implement until all these points have been fully developed, and give the implement from one to three seasons' trial in all parts of Europe, then combine all the suggestions from my agents of each season's work for general adoption, then giving the makers any alteration not seriously interfering with original construction, so that the implement is useful in all provinces.

I do not pay much regard to what the American makers call "competing with the cheap labor of Europe." As a rule our workmen are more intelligent, and their habits are such that they will accomplish more per day than the European; so that there is here an equalizing principle. The facts are apparent that the manufacturer is not contented with the profits of the European. Wide difference exists in this respect, as the European makers do not expend the half that an American does in elaborate offices and buildings, yet they now have all the modern machinery to turn their work out upon an economical basis. Great advance has been going forward in Europe since the Vienna Exhibition, 1873.

The most important work for the United States manufacturers desiring to make a trade in Europe is securing ocean freights, and to study the best manner in which they can pack their wares most compactly. All machines and implements should be shipped in a knocked-down form, and so packed gaining every inch of space possible; marking the parts intelligibly, so that there will arise no difficulty in putting them together on their arrival at their destination. No case should exceed 1,000 pounds in weight. All goods go by cubic measurement as soon as they reach the vessel, and 40 cubic feet constitutes a ton. If they are implements, several should be cased together in one or more boxes, giving at same time net and gross weights of each package. This matter is one of the most important for manufacturers to study; upon this alone depends their securing a large demand in Europe.

In issuing catalogues the three languages, English, French, and German, are quite sufficient. It is a most difficult matter to translate, owing to the technical terms used by the common people. There is probably no department of business where one comes more in contact with the most ordinary classes than with agricultural implement dealers, and therefore the printed matter must be intelligible to this class. Printed matter to reach these people should be fully illustrated, with as little reading matter as possible, only sufficient to give a clear idea of the implement being described. After I have adopted a machine and written out in English the reading matter, I translate the same, handing it over to my engineer, who, with the implement before him, makes all corrections. It is then placed in the hands of the common workman, who brings out the technical words used, and is then printed.

THE PARITIES OF EXCHANGE.

The value of United states currency is but little known on the continent of Europe, and I append the parities of exchange.

Value of dollars and cents in sterling, reichsmark, and francs.

American gold dollars.	Pounds sterling.	Mark à 100 pfennige.	Franc à 100 centimes.	American gold dollars.	Pounds. sterling.	Mark à 100 pfennige.	Franc à 100 centimes.
	£ S. D.	*Mark.*	*Francs.*		£ S. D.	*Mark.*	*Francs.*
1	4 3	4.25	5.25	29	6 3 3	123.25	152.25
2	8 6	8.50	10.50	30	6 7 6	127.50	157.50
3	12 9	12.75	15.75	31	6 11 9	131.75	162.75
4	17 0	17.00	21.00	32	6 16 0	136.00	168.00
5	1 1 3	21.25	26.25	33	7 0 3	140.25	173.25
6	1 5 6	25.50	31.50	34	7 4 6	144.50	178.50
7	1 9 9	29.75	36.75	35	7 8 9	148.75	183.75
8	1 14 0	34.00	42.00	36	7 13 0	153.00	189.00
9	1 18 3	38.25	47.25	37	7 17 3	157.25	194.25
10	2 2 6	42.50	52.50	38	8 1 6	161.50	199.50
11	2 6 9	46.75	57.75	39	8 5 9	165.75	204.75
12	2 11 0	51.00	63.00	40	8 10 0	170.00	210.00
13	2 15 3	55.25	68.25	41	8 14 3	174.25	215.25
14	2 19 6	59.50	73.50	42	8 18 6	178.50	220.50
15	3 3 9	63.75	78.75	43	9 2 9	182.75	225.75
16	3 8 0	68.00	84.00	44	9 7 0	187.00	231.00
17	3 12 3	72.25	89.25	45	9 11 3	191.25	236.25
18	3 16 6	76.50	94.50	46	9 15 6	195.50	241.50
19	4 0 9	80.75	99.75	47	9 19 9	199.75	246.75
20	4 5 0	85.00	105.00	48	10 4 0	204.00	252.00
21	4 9 3	89.25	110.25	49	10 8 3	208.25	257.25
22	4 13 6	93.50	115.50	50	10 12 6	212.50	262.50
23	4 17 9	97.75	120.75	51	10 16 9	216.75	267.75
24	5 2 0	102.00	126.00	52	11 1 0	221.00	273.00
25	5 6 3	106.25	131.25	53	11 5 3	225.25	278.25
26	5 10 6	110.50	136.50	54	11 9 6	229.50	283.50
27	5 14 9	114.75	141.75	55	11 13 9	233.75	288.75
28	5 19 0	119.00	147.00	56	11 18 0	238.00	294.00

Value of dollars and cents in sterling, reichsmark, and francs—Continued.

American gold dollars.	Pounds sterling.	Mark à 100 pfennige.	Franc à 100 centimes.	American gold dollars.	Pounds sterling.	Mark à 100 pfennige.	Franc à 100 centimes.
	£ S. D.	*Mark.*	*Francs.*		£ S. D.	*Mark.*	*Francs.*
57	12 2 3	242.25	299.25	88	18 14 0	374.00	462.00
58	12 6 6	246.50	304.50	89	18 18 3	378.25	467.25
59	12 10 9	250.75	309.75	90	19 2 6	382.50	472.50
60	12 15 0	255.00	315.00	91	19 6 9	386.75	477 75
61	12 19 3	259.25	320.25	92	19 11 0	391.00	483.00
62	13 3 6	263.50	325.50	93	19 15 3	395.25	488.25
63	13 7 9	267.75	330.75	94	19 19 6	399.50	493.50
64	13 12 0	272.00	336.00	95	20 3 9	403.75	498.75
65	13 16 3	276.25	341.25	96	20 8 0	408.00	504.00
66	14 0 6	280.50	346.50	97	20 12 3	412.25	509.25
67	14 4 9	284.75	351.75	98	20 16 6	416.50	514.50
68	14 9 0	289.00	357.00	99	21 0 9	420.75	519.75
69	14 13 3	293.25	362.25	100	21 5 0	425.00	525.00
70	14 17 6	297.50	367.50	200	42 10 0	850.00	1,050.00
71	15 1 9	301.75	372.75	300	63 15 0	1,275.00	1,575.00
72	14 6 0	306.00	378.00	400	85 0 0	1,700.00	2,100.00
73	15 10 3	310.25	383.25	500	106 5 0	2,125.00	2,625.00
74	15 14 6	314.50	388.50	600	127 10 0	2,550.00	3,150.00
75	15 18 9	318.75	393.75	700	148 15 0	2,975.00	3,675.00
76	16 3 0	323.00	399.00	800	170 0 0	3,400.00	4,200.00
77	16 7 3	327.25	404.25	900	191 5 0	3,825.00	4,725.00
78	16 11 6	331.50	409.50	1,000	212 10 0	4,250.00	5,250.00
79	16 15 9	335.75	414.75	2,000	425 0 0	8,500.00	10,500.00
80	17 0 0	340.00	420.00	3,000	637 10 0	12,750.00	15,750.00
81	17 4 3	344.25	425.25	4,000	850 0 0	17,000.00	21,000.00
82	17 8 6	348.50	430.50	5,000	1,062 10 0	21,250.00	26,250.00
83	17 12 9	352.75	435.75	6,000	1,275 0 0	25,500.00	31,500.00
84	17 17 0	357.00	441.00	7,000	1,487 10 0	29,750.00	36,750.00
85	18 1 3	361.25	446.25	8,000	1,700 0 0	34,000.00	42,000.00
86	18 5 6	365.50	451.50	9,000	1,912 10 0	38,250.00	47,250.00
87	18 9 9	369.75	456.75	10,000	2,125 0 0	42,500.00	52,500.00

In issuing special catalogues it is very essential to give each size or number of the implement, the net and gross weight, price, and cubic measurement. Tools should be packed 12 dozens in a case, more or less. To illustrate, I copy from my own catalogue, viz:

The New Champion grass mower; price, £17; cuts 4¼ feet; net weight, 308 kilograms; gross weight, boxed, 365 kilograms; measures 28 cubic feet.

Manure forks, 4 tine, 12 inches, 4½ feet bent handles, cap ferrule; price, per dozen, £2 2*s.* 6*d.*; 20 dozen in case; net weight, 350 kilograms; gross weight, 400 kilograms; measures 42 cubic feet.

The above will serve as a guide for those manufacturers who desire to issue special printed matter for the European trade. As a rule, the English language will answer all purposes, with careful attention to the details above referred to, in naming prices, giving the net and gross weight, with cubic measurement, which gives the foreign buyer a basis for making calculations of what the cost will be to land the wares at their place. The custom in Europe is long credits of from three to twelve months, but all the importing houses dealing in American implements, pay costs in New York unless the manufacturers have their own representative in Europe. The customs for making sales are very different from those pursued in the United States.

Another feature which should have serious attention, is for American manufacturers to better regulate their price-lists with quotations so as to deliver free on the docks in New York, or other United States ports, with a uniform discount not exceeding 25 per cent. This is a universal custom among the English manufacturers, and our long price-lists materially act against us with the foreign buyer making comparison from the price-lists of England.

The usual custom for English manufacturers in supplying dealers, is for heavy machinery 15 per cent. discount, and for tools and small implements 20 per cent. to 25 per cent. discount, with a credit of three to six months, or 2½ per cent. discount for cash.

Weights on the continent of Europe are computed into kilograms, and 100 pounds English averages about 45 kilograms.

The introduction and use of modern agricultural machines and implements on the continent of Europe is scarcely twenty-five years old, the great supply coming mostly from England, until about fifteen years ago when the United States made great strides with the introduction of mowing and reaping machines, followed with hay and manure forks, horse-rakes, harrows, &c. Wonderful advances have taken place during the past ten years through this demand by hundreds of manufacturers springing into existence in Germany, France, Sweden, &c.; but Germany probably has excelled in this respect all other countries on the continent. The general demands are for the cheaper finished goods, and of that class in use about thirty or forty years ago in the United States. It is a mistaken idea to think that the class of goods it has taken thirty or forty years to educate our own people up to can be forced on the market in Europe at the high prices sold for at home.

The steamer rates of freight are now so low that shipping by sailing vessel is altogether discarded, and with this quick transit it takes from four to nine months before the goods get into the consumers' hands.

GEO. W. SILLCOX,
Vice-Consul.

UNITED STATES CONSULATE,
Bremen, April 22, 1884.

RUSSIA.

REPORT BY CONSUL-GENERAL STANTON, OF ST. PETERSBURG.

INTRODUCTORY REMARKS.

In response to the Department's circular of February 20, 1884, I transmit herewith the result of my inquiries among dealers in agricultural implements, &c., in St. Petersburg, Moscow, and elsewhere.

The statements inclosed have been compiled from the opinions of the various merchants applied to, and as these opinions, notwithstanding they were collected from merchants dwelling remote from each other, possessed an extraordinary uniformity, it is fair to assume that they represent with tolerable accuracy the condition of the trade in agricultural implements in Russia.

Whether Russia is a desirable market for American manufactures, is a question which time and experiment can alone determine. Personally, I do not feel at all hopeful in the matter. It seems to me that the efforts of our manufacturers in this direction must meet, if not with absolute failure, at least with but little recompense, by reason of the extreme poverty of the agricultural classes; the extraordinary cheapness of the crude implements in use; the competition of Germany, England, and Austria, whose proximity to Russia gives them advantages which the United States does not possess; and lastly, the system of long credits which is universal throughout the country, and is attended by great risks, especially for foreigners.

Business has been at a stand-still throughout the country for some years; the mercantile community has long been greatly depressed; failures are very frequent and money is scarce.

In no way has the business outlook improved during the last few years, nor is there any promise of improvement in the immediate future.

I believe that trade with this country is full of risks and dangers for the American manufacturer, and that it should be attempted only with trustworthy agents, conversant with land and people.

In submitting these remarks my desire is not to deter American manufacturers, but to put them on their guard, so that if entering the lists in the hope of conquering this market, being forewarned they will be forearmed; and no one would more sincerely rejoice were success to crown their efforts than the writer.

EXTENT AND DIVISION OF TERRITORY.

The government of St. Petersburg not being particularly prominent as an agricultural province, I shall, in reply to the Department's circular of February 20, 1884, consider in this report the state of affairs in European Russia in general.

The land in Russia is divided partly in large and partly in small farms. The latter predominate in the peasant villages in the vicinity of the Volga and railways, the former in remoter, less settled portions of the country, and range in size from 12,000 to 100,000 acres.

NATURE AND PRODUCTIVENESS OF THE SOIL.

The soil is exceedingly diversified, loam, clay, and sand soil predominating in different parts of the empire. The richest is the so-called black-earth district, or that part of European Russia lying south of a line drawn through Kief, Orel, Riazan, Kazan, and Perm.

Northward of this line the soil is a mixture of sand and clay, varying in the more northerly portions and in the southwest with tundra and swamps.

Rye and barley are cultivated as far north as 65 degrees of latitude; the limit for wheat being in Finland slightly above, and in European Russia slightly below, the 60th degree; melons, &c., succeed in the southwestern portion of the empire as far as the 50th degree, and in the eastern parts as far as the 52d degree; the vine and maize also are confined to the vicinity of the Black and Caspian Seas.

The superficial area of European Russia is about 4,500,000 versts, with a population of about 80,000,000, and an annual grain production of 700,000,000 hectoliters.

The proportion of the cereals cultivated is perhaps more clear when expressed in percentages. Assuming 100 as representing the total production and export, the different varieties participate as follows:

Cereals.	Production.	Export.
	Per cent.	*Per cent.*
Rye	38.33	25.73
Oats	31	17.22
Wheat	12.67	39.97
Barley	7	6.63
	4.66	5.18
Other cereals	6.34	5.27
Total	100	100

AGRICULTURAL CONDITION AND CULTIVATION.

In general the methods of cultivation are still very primitive, modern labor-saving machinery being used to but a small extent, and then only on large estates, whilst the peasants, as a rule, employ the crudest and most imperfect utensils.

In Little Russia, the soil is turned up by crude plows, drawn by ten oxen, after which the grain is sown, and the land is harrowed in a most imperfect manner.

In general the three-field system of cultivation prevails, *i. e.*, two fields are sown, and one lies fallow, or, there is a regular rotation of crops.

The peasant farm being vested in the village commune, and allotted at fixed intervals to the villagers, according to the number of males in each family, is held by them in usufruct only. Their interest in the soil is but a temporary one, and their only aim whilst holding it, is to secure, without any regard to the future condition of the soil, the greatest possible production. The land consequently deteriorates rapidly, to the detriment of the whole community.

The estates of the nobles, which, as a rule, have been managed in an extravagant and impracticable manner, are rapidly passing out of their hands, and it is to be hoped that the new possessors will pursue a more rational policy.

IMPLEMENTS AND MACHINERY IN USE.

Relatively speaking, modern agricultural implements are but slightly used, those most in demand being plows, harrows, sowing-machines, mowers, rakes, straw-cutters, mills, thrashing-machines, and winnowers.

The implements used by the peasants are of the most primitive character, such as wooden plows and harrows, hand flails and sickles, whilst in some districts the grain is thrashed by walking horses or running a stone roller over it. The wealthier estate owners, and the model farms of the various members of the Imperial family, have, of course, all the most modern implements.

The tools and articles ordinarily classed with hardware, are excessively crude in form and poor in quality. The artisans wield them, however, with an astonishing dexterity, particularly a sort of broad ax, and the attempts to introduce tools of better form and quality have not been successful in consequence of the excessive cheapness of the home-made article.

ADVANCED APPLIANCES.

As before said, modern utensils and machines are employed only by the wealthier class of agriculturists, the peasants, or vast majority of this class, being much too poor to purchase or even employ the more expensive varieties of machines.

Large steam machines, movable engines, and thrashing-machines, are mostly of English manufacture, whilst horse-power thrashers are largely of Russian make.

Mowing-machines, reapers, binders, horse-rakes, which are latterly more in demand, come from America; plows and smaller implements are imported mostly from Germany, England, and Austria, and seem to meet the requirements of the market.

Generally speaking, the heavier machines for plowing, sowing, &c., come from England, harvesting machinery from America, thrashing

machinery from England, smaller machines and implements from Austria, Germany, and France.

HOW AMERICAN COMPARES WITH OTHER MACHINERY.

American machines and implements are on the whole much too dear, and therefore, with the exception of horse-rakes and mowers, in but slight demand. The objection is frequently made that American machines are too light and complicated for the average Russian agriculturist; that, made for a nation extraordinarily intelligent in the conception and employment of labor-saving machinery, they are misunderstood, misused, and unappreciated by the ignorant peasantry of this country. It is also objected that the excessive use of cast iron is one of the greatest drawbacks to the general use of these machines. Notwithstanding the excellence of these castings, they are very liable to break, and once broken, cannot be repaired. Such an accident in a country where the distances are so great, the means of communication so difficult, and the agents so few, are more serious than elsewhere, and affect the reputation of a machine most injuriously, since the broken part can never be quickly replaced, and often not at all.

During the harvest, when time is of the greatest value, an accident of this kind often causes a mower or reaper to be cast aside as useless, and creates a decided prejudice against the machine. It is suggested that were these metal parts of forged instead of cast iron, a small breakage could be repaired in any smithy, or at least so far mended that work could go on until a duplicate of the broken part be received.

I mention these suggestions, but leave the estimate of their value to the American manufacturer.

American agricultural machinery and implements are imitated both in Germany and Finland, and being cheaper and of inferior quality, affect the genuine machine injuriously.

Repeated efforts have been made by various parties in St. Petersburg to introduce American axes, wrenches, hammers, saws, spades, shovels, forks, rakes, &c., with, on the whole, but poor success. In the first place these articles are too dear, and in the second place the Russian artisan is averse to all innovations, particularly at the present moment, when ultra Russian ideas and fashions rule supreme.

The McCormicks, Johnstones, Goulds, &c., do, I am informed, a fair business in reapers, mowers, harvesters, pumps, &c., in Southern and Central Russia.

HOW MACHINERY IS INTRODUCED.

Agricultural machinery, &c., is usually imported direct from manufacturers, or their general European agents, by the dealers who have depots and agencies in the larger cities.

BEST METHOD OF INTRODUCTION.

The best method of introducing such articles is through agents acquainted with land and people, by advertising and distributing price currents and catalogues among estate owners and large agriculturists, and by intelligent traveling agents, who should study the requirements and tastes of each district.

HOW SALES ARE EFFECTED.

As a rule the agriculturist purchases only at the moment when a machine is needed. Sales for delivery are seldom made, and the demand

is good or bad, according as the harvest promises to prove excellent or indifferent.

Dealers are consequently obliged to carry large stocks of assorted goods. Sales are effected both for cash and time, the decision resting generally on the merits of each individual case. As a rule the seller seeks to effect a cash sale, the purchaser demands credit, and notwithstanding the risk, generally succeeds in buying on time.

HANDLING OF MACHINES AFTER IMPORTATION.

Ordinarily the articles, especially the larger and more expensive machines, pass through one intermediary only, whilst the smaller and less important articles go through two or three hands before reaching the purchaser.

HOW IMPORTS ARE EFFECTED.

The import is mostly done by steamers via Libau, Riga, Reval, and St. Petersburg, from America, with reshipment in Hamburg or some English port. From England and Germany rates are pretty much the same.

Germany's cheap railway freights, however, give this country a great advantage over other continental countries.

AGRICULTURAL REQUIREMENTS.

Cheap, durable goods are most in demand. Machines should be simple and strong and light. Complicated and expensive machines are not sought for, and difficult to place. To the Russian the main features are cheapness and strength; he has but little if any appreciation of style and neatness, and being averse to change, is, once gained, generally a permanent customer.

As the peasantry are ignorant and easily deceived by counterfeits and imitations, great care should be taken to make known and protect American trade-marks.

CATALOGUES AND TRADE-MARKS.

All articles should by all means be made to suit the requirements of this market. Catalogues, labels, &c., should be in the Russian language, and, as before said, owing to the tendency which prevails in this and neighboring countries to imitate good things, trade marks should be registered and inventions patented.

TRADE EFFORTS MADE BY FOREIGN MANUFACTURERS.

English and German manufacturers send agents annually to see what is required in this market. Many have also stocks in the most important cities. Success is presumable only under such conditions. The agents or representatives should, if possible, know Russian; German and French will prove of some assistance, but English alone is valueless. The poverty of the peasants preclude their buying the more expensive machines, nor are the wealthier agriculturists disposed to purchase from illustrated catalogues, and it is most surprising that American manufacturers should expect to extend their trade by such means only.

Catalogues and advertisements serve to awaken an interest in American agricultural implements, but to effect sales, agriculturists in this country must have occular proof of the efficiency and value of the machines they contemplate purchasing.

Some English firms have so thoroughly studied the country that in plows, for instance, a purchaser has but to state his district to receive the article adapted to his soil.

The successful operation of some machines require no small amount of intelligence on the part of the operator, and in many instances the peasant must be educated to the use of a machine.

For these reasons agencies must be opened and stocks be kept at various points in the country should American manufacturers desire to obtain foothold in this market.

FIRMS DEALING IN AMERICAN IMPLEMENTS.

Ransom, Sims & Head, Wood, Osborne, Johnstone & Co., McCormicks, &c., are all represented in this country. The leading Russian firms and dealers in Moscow are Achenbach & Colley, G. Köppen, Emil Schüler, Burckhardt & Urlaub, &c.; in St. Petersburg, Ackermann, Joachim, Rabotnik, Burckhardt & Urlaub, Schintz, Russian-American Company, Block, Edward, Pflugh, &c.; in Samara, C. Kœnitju.

All of the above-mentioned firms would doubtless be willing, on favorable terms, to engage in the import and sale of American machines and implements.

TARIFF DUTIES, ETC.

Agricultural machines, not exclusively of metal, are free, and the United States stands in this respect on the same footing as other lands.

The advisability of placing a duty of 35 copecks gold per pood weight on all agricultural machines has been under consideration lately both in the press and in Government circles. No conclusion has as yet been arrived at, nor is there any prospect of immediate action being taken in this matter.*

The local charges at the various ports of entry for weighing, opening, storing, &c., are excessive, and form a serious tax upon the import trade.

EDGAR STANTON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
St. Petersburg, June 1, 1884.

SOUTH RUSSIA.

REPORT BY CONSUL PAUL, OF ODESSA.

This report includes that section of Russia lying south of the cities of Kief, Charkov, and Voronetz, together with the Caucasus, which latter country is not always included in the term "South Russia."

FARMS IN SOUTH RUSSIA.

The farms or estates in the hands of the natives are generally in tracts of from 500 to 10,000 acres, while those possessed by the German

* It will be noted in the subsequent report for Odessa, dated twenty days later than the reports from the consul-general, that Consul Paul says that "after July 1, 1884, all agricultural machinery will be subjected to a duty of 50 copecks (37 to 38 cents) per pood of 36 pounds."

colonists are much smaller, and are very much like the average farms belonging to the settlers in the western part of the United States.

The Russian peasants have only small patches of ground, which can scarcely be designated under the high-sounding title of farm.

South Russia is prairie, known as "the Steppe," with the exception of the immediate vicinity of Kief and small portions of Podulia, where a little timber is to be found, and the soil is very diversified in composition and quality, but generally very rich and productive, although where sandy soil exists the average product of the crops is very low.

A very small proportion of the large estates are well cultivated, weeds abound in many sections, and the soil is not generally well cared for, and manuring is practiced only in those sections where the sugar beet is raised, and the most thrifty estates are in Podulia and mostly in the hands of the Polish gentry.

The German colonists are the best small farmers, in fact the only really successful agriculturists, and are getting ahead and accumulating wealth. A large proportion of the Russian and Polish estate owners are badly in debt and have their properties heavily mortgaged, and in many sections land is so abundant and of such little value that it is cultivated for two or three years and then allowed to remain idle from two to eight years, when it is again broken up and cultivated.

PRODUCTS.

Similar crops are not, as a general thing, raised twice in succession on the same land, and about one-third of the cultivated lands are "put in" to winter grain, wheat, and rye, while the spring-sown grains are oats, wheat, barley, and millet.

In some sections of Bessarabia and Southern Podulia, as well as along the Kuban in the Caucasus, a vast deal of Indian corn (maize) is raised.

In Podulia a large proportion of the land is devoted to the cultivation of the sugar beet, there being between 80 to 100 sugar factories in that section, and wherever the sugar beat is raised the soil is in a fairly good condition and tolerably free from weeds, as a great deal of hoeing is required to produce an average crop, and throughout this section of country the farming will compare favorably with other parts of Europe.

AGRICULTURAL MACHINERY IN USE.

Good plows of German, English, and home manufacture are in general use.

Self-raking reapers of English and American make are used to a considerable extent. The American now have the preference, and are driving English reapers out of the field, while German plows are displacing those of English manufacture, not on account of their superior merit, but because of the low price at which they are offered.

American mowers and horse rakes are used very extensively. Of the latter many German imitations are now being brought into the country.

American corn-planting and cultivating tools have been imported, but at present they are not meeting with a ready sale, although many corn-shellers for hand and power are in use, nearly all of American manufacture.

In steam-thrashing outfits the English manufactures hold the lead, being stronger and better calculated to work in wet and tangled grain, and clean better; besides this they grade the grain before delivering it into the bags, and, although much heavier and more clumsy, than those received from America, will last much longer.

Many small thrashers with "sweep powers" for two, three, and four horses are used on the smaller estates and by the German colonists. Most of them are made in Germany, although many are manufactured at Warsaw Charkow, and Moscow. They are cheap and tolerably well constructed, but they only separate the grain from the long straw, and do not clean it from chaff, and the grain thrashed with these machines has to pass through a fanning mill before being ready for market.

The practice of treading out the grain is yet very prevalent in the German colonies.

Russia is not the field for the American plow; it is too high in price, and the cheaper grades cannot be used.

American seeders and drills are in use, as well as broadcast seeders "without cultivating attachment" of German and Russian make. Some disk harrows have been sent over, but they are not in much demand.

HOW AGRICULTURAL IMPLEMENTS ARE INTRODUCED.

The English, French, and German manufacturers send traveling agents to introduce and sell their machines. The former custom of having branch houses has been very generally abandoned.

Sample machines should be accompanied with detailed instructions how to use them, and in the case of heavy or complicated machinery a mechanic should be sent out to assist in getting it started.

In order to induce a Russian dealer to try the introduction of any American manufactures, cash in New York on presentation of bill of lading *should not* be demanded, as has been the case in too many instances, for if the party ordering is willing to pay freight, insurance, and duty, and devote his time and attention to such introduction, the shipper ought to be willing to trust him for the price, until the article is sold, for, from experience, no Russian dealer will now pay in advance for anything he has not seen, for advertisments have been very misleading and many of them have considerable invested in unsalable goods for which cash has been paid.

Very little canvassing is done for the sale of agricultural machinery, as the larger dealers in the cities keep local agents in the German colonies and towns to whom small shipments are made to meet demands.

Respectable dealers obtain plenty of credit abroad and "long time" on their orders and purchases, but in Russia, as elsewhere, it is necessary to know with whom you are dealing, for of course there are many unreliable and slippery houses.

In the south the retail dealer has to give considerable credit if he does much business, but it is not safe to give time to the average Russian agriculturist, but the German colonist can be trusted with a certainty.

All the English and American machinery is brought by steamers, the former coming direct by way of Gibraltar and Constantinople to Odessa, Nicolaieff, and Taganrog. The latter are usually sent to England, where they are transferred to other steamers for the places above mentioned.

Goods for Kief, Charkow, and more northerly points in South Russia are sent via the Baltic sea-ports and thence by rail to their destination.

German manufactures are sent "all rail" or down the Danube by steamer or barges to Galatz, and thence by sea to Odessa.

English and German manufacturers have made, and are still making, vigorous efforts to secure business in South Russia, and are succeeding very well, for Russian home industry is not gaining very rapidly, owing to the want of skilled mechanics and lack of ambition on the part of the

laboring man to improve his condition, and there being so many holidays when the works are closed, labor being performed on only about two-thirds of the ordinary working days; hence Russian factories find difficulty in supplying home demands.

The manufacture of reapers and mowers has been attempted in the German colonies only, the reaper being of the hand-raking pattern. Self-binders have been introduced and operated on a few estates with success, but they will not come into general use for many years, as labor is too cheap, the machines too complicated, and the laboring men who would be expected to work them not intelligent enough.

All dealers in agricultural machinery in South Russia are now, more or less, engaged in selling American manufactures in their line, and it is thought that all kinds which can be used here and are suitable to the country have been tried.

There is, to a certain extent, a strong prejudice against so-called "new-fangled" notions and things that have not been tried abroad. This arises from the fact that many articles have been brought here which were not adapted to the country or were too high priced, and many found worthless.

As a rule American implements are regarded as too light and not substantial enough, and they are not always so well fitted and finished as they might be, although hay-forks and other small farm implements are much admired and sought after, but American fine edged tools, such as axes, hatchets, planes, saws, hammers, augers, &c., will not find ready sale, being too costly.

FREIGHTS.

Freights from New York to Odessa range from 30*s.* to 40*s.* sterling per ton of 40 cubic feet. This includes transhipment charges in England.

TARIFF.

After July 1, 1884, all agricultural machinery will be subjected to a duty of 50 copecks gold, about 37 to 38 cents per pood (36 pounds English), ostensibly for the purpose of stimulating Russian agricultural machine works, but the farmers regard the measure as an indirect tax on the productions of the soil.

FULTON PAUL,
Consul.

UNITED STATES CONSULATE,
Odessa, June 26, 1884.

DENMARK.

REPORT BY CONSUL RYDER, OF COPENHAGEN.

AREA AND ACREAGE UNDER CULTIVATION.

In acknowledging receipt of the circular from the Department relating to agricultural machinery, under date of the 20th February last past, I have herewith the honor to report that the Kingdom of Denmark, the smallest of the Scandinavian States, comprises, under Denmark proper, the peninsula of Jutland, together with the islands of Zealand, Fyen, and other smaller ones, with a total area of 15,000 square miles, which may be subdivided into 9,780 square miles for the

peninsula, and 5,220 square miles for the islands; and of these about 14,500 square miles are more or less brought under cultivation. The extent of land in the hands of the agricultural classes may be placed at about 8,500,000 acres, divided, into large and small estates or farms, and which, as will be seen from the following scale, are for the greater part occupied by the smaller or so-called peasant proprietors, viz:

1,900 consisting of 400 acres or above	1,000,000
71,000 consisting of 20 to 400 acres	6,300,000
162,500 consisting of less than 20 acres	1,200,000

AGRICULTURAL PRODUCTS OF DENMARK.

The nature and productiveness of the soil permits of the cultivation of all the products of a climate of moderately cold temperature, such as wheat, barley, rye, oats, pease, potatoes, &c., and is favorable to the raising of all kinds of live stock.

Denmark being entirely devoid of all sources of mineral wealth, the inhabitants (of which more than one-half are engaged in agricultural pursuits) are in great measure dependent for their livelihood and prosperity on the productiveness of the soil; and in the later years considerable energy and ability have been devoted towards a greater development and more profitable improvements in all the various branches of agriculture.

In the peninsula of Jutland, from the nature of the soil, attention is mainly directed to the raising of live stock; in some districts of horses, in others of horned cattle, sheep, and swine, and these form a large share of the Kingdom's exports, both in the live as well as slaughtered state. On the islands, where the soil is more fertile, the attention of agriculturists is, on the other hand, more given to the cultivation of cereals, such as wheat, rye, and barley, and these are also largely exported both in the natural and in the manufactured state.

IMPROVED AGRICULTURAL MACHINERY IN DENMARK.

In the before-mentioned endeavors on the part of the agricultural classes to obtain the greatest possible returns from the soil, it has been found necessary to make repeated trials of all improvements in agricultural implements in order to lead the way to the adoption of those proving to be the most suitable; and the great "Royal Agricultural Exhibition," which was held last year in the Kingdom, offered a very favorable opportunity for forming an opinion of the implements in use and of their origin, every description of machinery already in use, as well as those intended to be introduced, being there exhibited by the manufacturers or their agents in this country.

The following subdivision of the exhibits of the different groups forming part of the machinery department may be of interest, namely:

Plows, cultivators, horse hoes, harrows, and rollers were represented with 166 different numbers, of which only 30 numbers were of foreign make, the remainder being of Danish manufacture. Sowing machines were represented by 50 numbers, of which 16 were of foreign (German) manufacture; reapers and mowers with 14 numbers, of which 1 English and 1 Swedish, and the remainder all of United States manufacture; hay-makers and horse-rakes with 33 numbers, of which 11 were of United States make, and the remainder of home manufacture.

Thrashing-machines with steam-power, with thirteen numbers, all of English make; thrashing-machines for horse and hand power, with forty-six numbers, of which nine were of foreign (German) make, the

others of Danish; sorting and dressing machines for seed; chaff cutters; turnip cutters; corn and oil-cake crushers, with ninety numbers, of which twenty-seven were of foreign (German) make; steam-engines, fixed and portable, with or without boilers, with thirty-six numbers, of which all those of large dimensions (nineteen) were of English make, and only the smaller sizes (seventeen) being of Danish manufacture. Mr. Creutzberg, of Copenhagen, also exhibited a patented "continual hay-press," from Mr. Dederick's agricultural and machine-works of Albany, State of New York. This was the first machine of its kind ever seen in Denmark, and seemed especially to have attracted the attention of the proprietors of lands lately recovered from the sea, where considerable hay is put up for export; as also that of the contractors for hay delivery to the steamers engaged in the cattle trade. This number was sold immediately, and subsequent orders received for the same article. It would thus appear that, notwithstanding the smallness of its territory, this country is nevertheless open to the introduction of improved machinery.

From the foregoing it will be seen that the Danish agriculturist is fully alive to the advantage of utilizing all descriptions of machinery and improved implements, and even steam-plowing has been frequently tried; but the great subdivision of the land into so many small farms, together with the hilly nature of the ground in many places, seem to have been a great hindrance to the employment of such large machines. In the cultivation, however, of sugar-beets, to which much attention has been devoted in the later years, it will without doubt be found of considerable service, and the future may also probably bring forward some improved machines more adapted to the smaller class of farms, and which would unquestionably lead to their more general employment.

IMPORTED MACHINES IN DENMARK.

It will likewise be remarked in the foregoing list that all the large machines, such as steam-thrashers and steam-engines, are of foreign (mostly English) make; and this in all probability will continue to be the case, as the Danish industries in those branches, from the limited volume of business, owing to the small extent of home territory, added to their utter inability through natural causes to extend their operations by competition in an export trade with foreign manufacturers, will find that they cannot make head against their foreign competitors, even on their own ground. The same remarks may also be made as regarding the reapers, mowers, haymakers, and horse-rakes, &c., of which the United States manufacturers are the leading importers; and it is to be hoped that our country may long continue to maintain this position, as the English horse-power machines have generally been found too heavy for the Danish light crops and for their lightly-built horses. It should, however, be pointed out that some years back, whilst the Danish farmers eagerly made inquiries for and adopted our reapers, they have not met with the same success in later times. It is said that owing to the dampness of the climate the soil during harvest season frequently becomes so softened that it has not been possible to make use of the reaper; and in fact many of the American makers of these machines have withdrawn from this country, last year only two firms having been represented.

HOW TO INTRODUCE AMERICAN IMPLEMENTS.

As regards the smaller and simpler implements above named, it will always be a matter of greater difficulty to enter into competition with

the home manufacturers in articles where the value is small in proportion to the weight, as the prices will be unproportionately raised by cost of carriage and customs duties; still, the American article, as being of lighter make and approaching more in general appearance to those of Danish manufacture, is more likely to meet with success than those from the English makers. Neatness in finish and a stylish get-up will also undoubtedly be appreciated here, and tend to assist in successful competition with the ruder work of the home manufacture. Any special style seems scarcely to be called for; but an active and observing agent should always be prepared to supply his constituents with the necessary information, when any particular style or alteration might be desirable for special purposes.

Catalogues, with full specifications, will, of course, be advisable, and these should be in the Danish language, few of the agricultural classes here being sufficiently conversant with that of our own country.

HOW MACHINES ARE IMPORTED.

As regards the facilities for importation it may be said that few countries possess greater advantages than Denmark in this respect. Her coasts are supplied with numerous sea-ports easy of access, and with ample depth of water for vessels of ordinary tonnage; and these are again connected by railways with the interior of the country; and it may be added that all the large estates, as well as the moderately-sized farms, which could be likely to become customers for these improved agricultural implements, are all within easy distance of from 5 to 10 English miles from a sea-port, town, or railway station; and from Copenhagen, the great trade center, a complete net of coasting steamers is established for the maintenance of daily communication with every sea-port in the kingdom.

The United States, through a direct line of steamers under the Danish flag plying monthly between this capital and New York, has now been placed in a favorable position for competing with other countries, and has already derived great advantages from the facilities thus offered for the direct introduction of her produce and manufactures.

As to the best course to be pursued by our manufacturers in order to create a greater demand for their agricultural implements in this kingdom, there can scarcely be a doubt but that the surest road toward such a desirable result must be through the appointment on the spot of direct agents who are well acquainted with all the peculiarities and requirements of the people. At present the American manufacturers would appear in most cases to transact their operations with this country through the intermediate agency of commission merchants in New York or through branches of these firms established in Hamburg or Bremen. This system is objectionable in many ways. It must in the first instance be attended by extra expenses, as the Hamburg or Bremen firms will almost invariably have to employ and pay for the services of some party here to assist in obtaining orders, regulating the financial arrangements, &c.; and furthermore the manufacturer by such mode of consignment of his goods will frequently be uninformed as to their final destination; and whenever a falling-off in the demand for his manufactures at some later period is brought home to him he will be at a loss to which country he has to look, and where or how to apply the remedy to check this decreasing demand. The very best of such large branch establishments with all possible desire to promote the interests of the manufacturers will too often find it out of their power to keep them sufficiently

posted with all the peculiarities and requirements of each individual country.

This system of confiding the introduction and sale of their manufactures to the care of these large commission firms will never be successful in creating a trade with a country like Denmark, proud that, notwithstanding the smallness of its territory, it can boast of a proportionally large mercantile navy, displaying its flag in all quarters of the world, and possessing a commercial class very tenacious of its independence from all foreign agency in the carrying on of its international commercial relations.

HOW BRITISH TRADE WAS BUILT UP.

The history of their trade with England is ever present to their minds. How it was conducted during the first half of the present century to their great loss by means of intermediate agents in Hamburg; and that it was only at the close of the first Schleswig-Holstein war, in 1848, when the first attempts were made to open up a direct intercourse with Great Britain and thus release their trade from its state of thralldom to Germany; and so great has been the subsequent development of this direct intercourse, both as to exports and imports, and of such material benefit to the Kingdom that at the present day lines of steamers are to be found in weekly communication from this city, as well as from other sea-ports in the Kingdom, with London, Newcastle, Hull, Leith, &c., taking over the products of the country and returning with British manufactures, &c.

The lively business now carried on from Great Britain to this Kingdom in all descriptions of machinery is in great measure a result of this direct communication. It has made competition more easy by enabling the manufacturers to supply speedily and at less expense such wants as fashion, taste, or suitability might call for in the trade.

This first step is now open to the manufacturers in the United States through the establishment of the before-mentioned steam line to New York. This line has already proved to be of great advantage to the United States commercial men in largely extending their connections with this country, and it now only remains to draw the special attention of manufacturers of agricultural implements to the advantages they may equally derive from this facility of intercourse. Partnerships or branch houses might of course be established here for the introduction of this business; but the comparatively limited nature and extent of these transactions, from the smallness of the territory, will scarcely offer sufficient remunerative attractions to induce parties to enter into such engagements, and the appointment of direct agents will probably be found the most advantageous course to pursue, and so soon as it becomes evident that manufacturers in the United States are really desirous of opening out direct intercourse with this Kingdom for the introduction of these implements of agriculture there will be no lack of offers of service from the Danish commission firms, when a selection can be made, after reference to some of the leading commercial or banking firms in this city for due information as to the solidity and character of the applicants.

THE SYSTEM OF PURCHASE.

It is the prevailing custom in this country to allow the farmers a credit of three to six months on these sales, and the manufacturers must, of course, be prepared to grant similar terms to their agents, leaving to these, at the same time, full discretion in their sales and dealings with

their customers, and with the selection of reliable men as agents no great cause of anxiety need be feared on this score.

DANISH TARIFF.

Machinery and engines imported into Denmark are subjected to a customs duty of 2 kroners (say 52 cents) per hundred weight. The freight will depend in great measure upon the size and weight of the article, but the direct steam line from New York appears to offer every facility to shippers, and the cost of carriage, insurance, customs dues, &c., on machinery from the United States to this country may be placed at 10 to 20 per cent. of the value, according to the relative proportions between value, weight, and volume of the article. The manufacturers of the United States will find themselves placed on the same footing and enjoying the same advantages as are enjoyed by those of other nations.

HOW AMERICAN MACHINERY IS REGARDED IN DENMARK.

In conclusion it may be remarked that all such articles of American machinery as have hitherto been introduced into the Kingdom continue to maintain their high reputation among the purchasing classes. They are found less heavy than the English machines employed for similar purposes, and are of superior finish and of far better materials than those of German make. The good quality of the materials used in the American manufactures and the neatness of finish and style must be the main features both for successful introduction as well as for retaining their place in the market, because imitations of our inventions in the form of their outward construction is too often attempted by the foreign (especially the German) makers, and sold at cheaper rates than our own; but later on, when the great inferiority of workmanship and of the material becomes plainly apparent, the purchasing community begin to see the error they have committed in allowing themselves to have been induced to the purchase of an imitation article at its apparent lower cost.

HENRY B. RYDER,
Consul.

UNITED STATES CONSULATE,
Copenhagen, May 17, 1884.

GERMANY.

REPORT BY VICE CONSUL-GENERAL HOGUE, OF FRANKFORT-ON-THE-MAIN.

Inasmuch as a great part of the agricultural land in this district is either divided off into small pieces or is used for gardening purposes, agricultural machinery is not employed in the cultivation of it to the same extent as in many other parts of the Empire.

In the northern part of the district the principal agricultural implements in use are drilling machines, pulverizing machines, and machines for scattering manure, the last named and the differently constructed pulverizing machines being the ones most recently introduced. Of these part is home made and part is imported. Pulverizing machines are mostly of English manufacture, and are tolerably well advanced

toward perfection, while the machines for scattering manure are imperfect, but are being improved upon. American machinery has been introduced to a very limited extent, though implements, such as hay and manure forks, have been more generally introduced and give satisfaction.

In the other parts of the district the principal implements are plows and drilling machines. The latest introduced are plows for deep cutting and potato-planting and harvesting machines, manufactured at Berlin and Leipsic.

COUNTERFEITING AMERICAN MACHINES.

In Southern Germany a change to deep plowing has been made, which requires a deeper cutting plow than heretofore in use. The plow-making establishments turn out from thirty to thirty-five different kinds of plows each, the aim being to suit all kinds of land to be plowed. Imitations of several kinds of American plows are made at the establishment at Berlin. It advertises the American Eagle plow, made exactly according to the original. The American manufacturers would seem to have a good deal of competition; the plows cannot be manufactured cheaper there than here; they are copied, and besides the cost of transportation, duty, &c., must be calculated. One dealer in home and foreign made machinery informs me that the business in American machines has been reduced to a minimum since the leading articles, viz, mowing machines, are now seldom bought in Southern Germany. The reason of this is cheap hand labor. Years ago, when labor was not so cheap, machines were bought, but now that labor is so cheap, and inasmuch as hands are required to hoe and harvest the beet crop anyhow, they are also employed to do the mowing. The same authority says of hay rakes that the teeth are imported from America and the other parts copied from the original American rakes. The main reason given for the retrograde as to American agricultural machinery is that the home establishments, though turning out better work than formerly, scarcely have employment the year round.

IMPLEMENTS IN USE.

The principal hand implements sold in this city are scythes, sickles, shovels, hay and manure forks. The scythes and sickles are of German and Austrian manufacture; quality good. Shovels, German and partly American; both good as to quality. Hay and manure forks, formerly mostly American, are now mostly German; quality good. Objection is made that some of the American implements are not of that durability that the peasant buyer is wont to demand; on an average they are better in quality, though correspondingly more expensive.

DEALERS IN AGRICULTURAL MACHINERY.

Agricultural machines and implements are sold almost exclusively by dealers. The principal dealers in this city are Ph. Mayfarth & Co., Moritz Weil, jr., Louis Marburg & Sons, Carl Marburg. These firms deal in German, also in American and other foreign machines and implements. These firms as a general thing buy of agents or branch houses at Hamburg, Bremen and Berlin.

GERMAN TARIFF ON MACHINERY.

Conformable to the tariff of 1879, machinery pays duty according to the chief material of which composed, viz: If of wood the duty is 71

cents per 220 pounds; same if of cast iron; if of wrought iron the duty is $1.19 per 220 pounds; if of other, not precious, metals the duty is $1.90 per 220 pounds. Hay and manure forks pay a duty of $2.30 per 220 pounds.

HOW TO INTRODUCE AMERICAN IMPLEMENTS.

If our manufacturers would combine and have a permanent exhibition of their wares in this city they would no doubt accomplish much more towards making a market for them than has been accomplished so far. The articles could then be introduced, and a market made instead of only the demand being supplied as it now is to a great extent, by houses dealing in wares of sundry foreign manufacture, according as the different articles have become known.

CATALOGUES AND TRADE-MARKS.

Catalogues should be in the language of the country.

Inventions should be secured by patent, otherwise the articles will be imitated and inferior and cheaper ones produced, which also injures their reputation.

ALVESTO S. HOGUE,
Vice Consul-General.

UNITED STATES CONSULATE-GENERAL,
Frankfort-on-the-Main, September 20, 1884.

PROVINCE OF BRANDENBURG.

REPORT BY CONSUL-GENERAL BREWER, OF BERLIN.

I have the honor of acknowledging the receipt of circular letter of February 20 last relating to agricultural machinery in Germany, and in accordance with instructions I beg leave to submit the following observations, which are intended to apply more particularly to the province of Brandenburg, in the Kingdom of Prussia, of which Berlin is the chief and central city.

AREA AND PRODUCTS.

This province contains many large landed estates, but the major portion of the land is divided into small farms, many of which contain from 5 to 10 acres. The face of the country is rather flat and level, and the soil is, generally speaking, light and sandy. The land is in a good state of cultivation, and considering the lightness of the soil, produces fair crops of wheat, rye, rape, potatoes, and other vegetables, which usually find a good market in the cities of Berlin, Potsdam, and other large towns. On the larger estates modern appliances and machinery are used in the cultivation of the soil and the gathering of the crops, while on the small farms mentioned such machinery is scarcely seen, and the reaper and mower have not as yet taken the place of the sickle and scythe. In passing through the country in harvest time one will frequently see the peasantry, men and women, harvesting their little crops by the use of the sickle.

IMPLEMENTS IN USE.

I do not remember seeing the grain-cradle used at any time, but it is quite likely it or something similar is somewhat in use. The handle of

the scythe is usually perfectly straight, while the plow and the harrow and other tools used on the smaller estates are what might be called of the primitive style. The teams used on these small farms compare favorably with the implements stated.

IMPORTED AND HOME MANUFACTURES.

There was much more agricultural machinery imported into Germany twenty years ago, in my opinion, than at the present time, for Germany during that time has made a very great advancement in the invention and manufacturing of mechanical and industrial appliances, until, at the present time, a very large proportion of farming machinery used in the Empire is manufactured within its own limits, and at the same time she is exporting agricultural machinery to quite an extent to Russia, Bohemia, Northern Africa, South America, &c.

AMERICAN MACHINES AND IMPLEMENTS IN GERMANY.

There are several agents representing American firms and companies who have for some years been engaged in the handling of American agricultural machinery in Germany, one of the oldest of such agents being Mr. George W. Sillcox, of Bremen. He travels not only through Germany, but Russia and Austria as well. Mr. Thieme, of Berlin, has for some years been handling the "Walter A. Wood" reapers and mowers, but I am informed by such agents, generally, that less foreign-made reapers and mowers and other farm machinery is sold in Germany than formerly. At Mr. Thieme's house I was informed that only some thirty-five reapers and mowers were sold by his house (he being the general agent for the whole of Germany) during the year 1883. Glogowski & Sohn, of Berlin, also have for some years been handling agricultural machinery for American and English houses, but I was informed by them that but very little American machinery was now sold by them, and but very few English reapers and mowers, but that they were doing well with the English steam thrashers. Mr. Ernst Schneider, of Berlin, has for many years been handling English and American agricultural and other tools of the smaller kind, as well as household tools of English and American make, but he informs me that such tools are soon imitated here, and that his trade is somewhat light.

GERMAN MANUFACTURES.

As I have said, much advancement has been made in Germany in the manufacture of agricultural machinery. At the present time very extensive establishments for the manufacture of such machinery exist at Berlin, Magdeburg, Mayence, Leipsic, &c. The one at Leipsic in 1882 employed 575 men, and in 1883, 780 men. It 1882 it is reported to have turned out 16,351 grain drills and 2,333 reapers and mowers, and much other machinery for the use of the farm.

The establishment of "H. F. Eckert" an incorporated company at Berlin engaged in the manufacture of agricultural machinery, I have just visited, and by the courtesy of the manager was shown through the establishment. This company has, as I was informed, some nine hundred men in its employ. It manufactures wagons, thrashing machines, clover mills, fanning mills, machinery for cutting and preparing beets for sugar making, cutting boxes, stills for making whisky from potatoes, horse-rakes and plows, the latter upon a large scale and of various kinds.

I was informed that the company was then filling an order from South America for four hundred plows, and was shown some of the plows intended for that country. A catalogue in English, with cuts showing the various kinds of machinery made by such company, was kindly presented to me. The most of the agricultural machinery made in Germany, at least that which I have seen, is constructed in a substantial manner, yet I think I can safely say it does not exhibit that skill of workmanship or style of finish which one sees in American machinery. The plows are quite differently constructed from what they are in the United States, usually having more machinery attachments, and I should suppose would be more expensive in their construction. All the plows which I have seen in use (and I doubt not all or nearly so that are used in Germany) have had two wheels running in front upon an axle tree, the front end of the beam resting upon such axle-tree, one wheel running in the furrow while the other runs upon the ~~land side of the~~ side unplowed.

HOW TO INTRODUCE AMERICAN IMPLEMENTS.

I have seen no plow here that compares in skill of workmanship or beauty of finish with American plows. I might say the same in regard to the smaller kinds of farming implements made and used in Germany, such as forks, spades, hoes, axes, hand rakes, &c. I consider them much inferior to the American make, yet while this is so the people here are accustomed to the use of these tools, and by reason of the very cheap labor here they can be supplied at low prices, and the work of replacing them with foreign machinery, although of a superior quality, must be slow and require much labor. It can be done only by efforts of agents who are somewhat familiar with the habits, customs, and wants of the people and who can speak their language. The German people are naturally conservative, and are slow to adopt new ideas or new machinery without first seeing them illustrated and tried. I should say that generally speaking the best way to introduce agricultural machinery here of American make, or in fact for introducing goods of any description, would be for the merchants or manufacturers in America to form a business connection with some good responsible man here who has some knowledge of the trade sought to be engaged in, and who will take an interest in working up a business for his own benefit as well as for that of his associates in America. This seems to be the course taken by England and Germany, and the success they have met with should be instructive to our own people.

I think there are many things manufactured and produced in America that would find a sale here if they could be brought to the attention of the people, but this can only be done by having some one who is personally interested make it his business to bring about such result.

COUNTERFEITING AMERICAN MACHINES.

There is another important question which must not be overlooked, and that is the wonderful genius of the German mechanic for imitating the works of others, which is so perceptible in the case of sewing-machines which were invented by citizens of our country. The number of these machines that are manufactured in Berlin is very great, and stores are filled with the Wheeler & Wilson, the Singer, and other machines well known and first made in America. These machines, of course, are made here, and with their cheap labor no American manufacturer

can compete with the manufacturers here. The American horse-rake, grain drill, and reaper and mower, with slight changes, manufactured here are supplying the place of those manufactured by the original inventor in the United States. Will not this be the case with other of our machinery when placed upon the market here? However much we may wish to extend our trade into Germany we cannot refrain from considering this question. It is quite impossible for consuls to say what machinery or production from our country would find a market here. We see in some stores American goods, but as to what extent they are sold in Germany we are unable to tell only as we gather the information from statistics furnished by our Government showing the exports of such goods to Germany.

HOW TO INCREASE OUR FOREIGN TRADE.

As Germany is now unquestionably exporting agricultural machinery to Russia, Africa, South America, &c., business experience should tell us the place to compete with German manufacturers is in those countries, rather than within their own Empire. I quite understand that it will be truly said that the United States has no way of sending her goods to those other countries mentioned except as they depend upon English and German ships to carry the same, and that American goods as well as passengers for these countries must, as a general thing, go by way of Germany, England, or France in order to reach their destination. These countries have by building up lines of ships running to all parts of the world thereby established valuable markets in foreign lands for their surplus productions. Government "subsidies" or aid granted to assist in building up and maintaining a merchant marine by European countries is not a new thing by any means, but is a settled policy of such governments, and I doubt not that in a few years the merchants, mechanics, and farmers of the United States will demand that direct lines of communication from our large sea-coast cities shall be opened to South America, Africa, and other countries where markets can be found for our surplus productions, and that if such lines cannot be opened without Government aid, then that such aid must be granted. Our Government has spent many millions of dollars to aid in the construction of railroads, and is now spending many millions more annually to build up and improve water communications in order to place its surplus productions at the sea-board, and wisdom, it now seems, should dictate that something should be done towards establishing independent lines of our own to move such productions from our sea-coast cities to foreign lands. In shipping agricultural machinery to Germany I am informed that special rates can be made with the various lines of German steamers, but as that question can be much better discussed by the consuls at the great sea-port cities of Hamburg and Bremen, I will not consider it here. It is the general custom here to allow credit on the sale of machinery, but for a further discussion of this question, and many others which I have not touched upon, I respectfully refer to the able, complete, and very interesting report of Consul Kiefer, at Stettin, whose report is applicable to the province of Brandenburg as well as that of Pomerania.

M. S. BREWER,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Berlin, May 23, 1884.

AIX-LA-CHAPELLE.

REPORT BY CONSUL LINCOLN.

I have the honor to state in reply to your circular relating to agricultural machinery, that the territory contained within the limits of this post is not an agricultural one.

Such being the case it is impossible for me to answer any of the interrogatories, except in a general way, and many of them not at all.

The country lying about here is for the most part hilly, wooded, and unfitted for farming on any extensive scale.

There are very few farms of any size in the neighborhood, and on these are raised rye, wheat, and oats in small quantities only, the supply produced being insufficient for the needs of the locality.

The small farms are managed very economically and the returns are so poor that the agriculturist receives little encouragement.

AMERICAN MACHINERY IN USE.

The very few large estates are supplied with reapers of American make, as I am informed, but otherwise only the most primitive and rudest implements are in use.

The plows, for instance, which I have seen in use about here are the clumsiest and most unhandy looking affairs; the implements proper being connected with a two-wheeled running gear of wood, to which shafts are attached.

In this city there is only one house dealing in implements of the kind referred to, the proprietor of which informed me that in the last few years he had been able to sell scarcely any at all. He told me that the few well-to-do estate owners were supplied, and that there was absolutely no demand at present nor any prospect for any in the near future.

AMERICAN MACHINERY DISCREDITED BY COUNTERFEITS.

He further said that in years past the American reapers sold here had given the greatest satisfaction, but that later on copies of these machines made by a manufacturer in the vicinity, turned out so poorly that discredit was brought upon the first named.

SUPERIORITY OF AMERICAN HARDWARE.

Here I would remark that invariably the excellence and practical worth of articles of American manufacture, particularly of hardware, &c., is acknowledged by all to whom the same are known. The lightness of construction combined with strength and durability is universally admired and praised by those qualified to judge.

However, the objection of the price of the same is also as invariably raised, and whether correcily so or not this fact practically excludes many of them from this market.

HOW THE ENGLISH INTRODUCE THEIR MACHINERY.

The English are of course our rivals in this as well as in all other branches of business. How they introduce their wares in general I cannot say, but in some places in this country English manufacturers

have established permanent exhibitions of their agricultural machines and have introduced the system of renting the same for the season in order to make them known.

That the before mentioned is an excellent plan in a country like this, where the landed proprietor is, as a rule, so poor, goes without saying.

HOW TO INTRODUCE AMERICAN MACHINERY.

As to the best method to be employed by our manufacturers to introduce their products I can only reiterate what my colleagues have urged time and time again.

To introduce our manufactures upon a foreign market it is not sufficient merely to get up a circular describing the same, to be distributed among dealers in similar articles. Nor, in my opinion, will the commercial traveler of the type commonly met with succeed in creating any great demand for our manufactured products in a country like this. For the introduction of so-called "Yankee notions" and the like the employment of such means as the before mentioned may suffice. But to combat long existing prejudices and the deeply-rooted conservatism of a people like this the persuasiveness of the ordinary traveling salesman will not prove adequate.

In order to create a healthy demand for our goods, and to establish any business upon a substantial basis, it will be necessary for our merchants to take much more energetic measures than they have hitherto employed.

In my opinion, no extensive export business will be built up unless our merchants found branch houses somewhere within the limits of the country wherein they intend extending their operations, under the charge of men brought up and educated to business in our own land. This suggestion will particularly apply to the exporting of all kinds of machinery, mechanical contrivances, inventions, &c. It is essential to the successful introduction of articles comprised in the foregoing category that the sale of the same should be confined to men familiar with their construction, use, adaptability, &c.

One should not forget that many of our labor-saving machines, and even articles of precision, fall for use into the hands of persons not having the slightest amount of mechanical skill or ingenuity. In our country nearly every person is possessed of some degree of mechanical ability; here the case is very different. As a consequence of the above mentioned fact it is necessary to have such persons within easy access as are competent to instruct in the use of machines and able to superintend necessary repairs.

A peculiarity of our mechanical contrivances, as a rule, consists in their lightness of construction combined with strength; intended for the use of intelligent labor they often require careful usage. One familiar with the intelligence of the ordinary mechanic in this country can easily appreciate the difficulties to be overcome in the introduction of new inventions.

Then, too, it is necessary to keep a watchful eye upon imitations, infringements, &c., which can only be expected of persons having some amount of technical knowledge and direct pecuniary interest involved. Mere agents, whose sole interest lies in the number of their sales, after the successful introduction of any novelty are very likely to be pleased when they obtain a cheap imitation of the same.

In conclusion, I would state that, generally speaking, regard is given rather to cheapness in price than to the real value of an article by the

purchaser. The truth of the adage so often quoted by us that "the best is the cheapest in the end" fails of appreciation here. This peculiarity will be the more noticeable in the branch of business under consideration, inasmuch as neither fondness for the perfection of mechanical appliances nor love of beauty in finish exists.

GEO. F. LINCOLN,
Consul.

UNITED STATES CONSULATE,
Aix-la-Chapelle, June 11, 1884.

BAVARIA.

REPORT BY CONSUL HARPER, OF MUNICH.

In compliance with instructions contained in department circular relating to agricultural machinery the following information is submitted:

FARMS IN BAVARIA.

Size and number of farms in the kingdom of Bavaria.

From 4.9 to 12.3 acres	165,429
From 12.3 to 24.7 acres	121,191
From 0.49 to 2.47 acres	114,685
From 2.47 to 4.9 acres	88,287
From 24.7 to 49.4 acres	86,795
From 49.4 to 123.5 acres	41,840
From 0.12 to 0.49 acre	35,997
From 0.04 to 0.12 acre	13,688
Less than 0.4 acres	9,686
From 123.5 to 247.1 acres	3,329
From 247.1 to 494.2 acres	504
From 494.2 to 1,235.5 acres	79
From 1,235.5 to 2,471.1 acres	9
Over 2,471.1 acres	2

The distribution of farms is as follows:

Upper Bavaria	98,296
Lower Bavaria	83,891
The Palatinate	107,124
Upper Palatinate	65,867
Upper Franconia	69,241
Middle Franconia	71,706
Lower Franconia	97,668
Suabia	87,728
Total	681,521

Bavaria covers 29,289.57 square miles: 7,587,357 acres in fields and gardens; 3,079,522 acres in meadows; 582,190 acres in pasture; 6,182,682 acres in forests and woods, and the balance in farms.

AGRICULTURAL MACHINERY.

Agricultural machinery has been in use, more or less, for thirty years, especially thrashing, mowing, sowing, grain-cleaning machines, locomobiles, and steam plows.

The first machines and implements came from England and America. They were regarded by the people with mistrust, and this, coupled

with high prices, rendered difficult their introduction. The new machines aroused much opposition from the rustics and, in several instances, led to the destruction of the offensive articles. By degrees this opposition was overcome and home manufacturers began to imitate the English and American patterns, some of which are considered an improvement on the models.

As labor here is much lower than in England and America, and as freight and duties were saved, they were enabled to sell at a much cheaper rate, and they did so, making good profits and selling direct to the purchasers.

An exceedingly brisk competition ensued between the different manufacturers, and active agents were largely employed who still further cheapened the prices and who granted easy terms of payment to the small farmers.

The most extensive and important of agricultural implement manu factories is the Action Society, United Agricultural Machine Manufacturers, located in Augsburg. This establishment during the past few years has accumulated so large a stock of machines for which there was a very slight demand that they were obliged to discharge several hundred hands.

The country is pretty well provided with agricultural machinery at present, but would be ready to buy more if funds were provided. In many cases thrashing machines are bought at the expense of the parish, or some of the wealthier farmers form a co-operative society to buy a thrashing machine and the necessary steam engine. Sowing and mowing machines are also often obtained by combining.

At present there is only one steam plow in operation in Bavaria, viz, at the Kreuzhof farm, near Ratisbonne, belonging to Prince Thurn und Taxis.

ENGLISH VS. AMERICAN TOOLS AND IMPLEMENTS.

In Munich, Augsburg, Ratisbonne, Nuremburg, and some other large towns one or more firms are engaged in the sale of agricultural machines and tools. Some of these have the exclusive agency from English makers, who keep with them a depot of the most popular machines, &c., as samples for farmers wishing to make purchases and for exhibition at agricultural shows.

The English firms, who do a pretty fair trade all over Germany, first sent travelers, who went from one large place to another, established the above-mentioned depots and effected sales to introduce their machines, but this is no longer necessary; their manufactures are now well known, and the agents keep up the connection. The latter advertise freely, have illustrated catalogues, and visit the larger farmers from time to time, employing also a number of subagents (schoolmasters, ironmongers, &c.), to whom they allow a modest commission. Some American firms are also represented by them, but the English sell most extensively, as they are very liberal in their conditions of payment.

Two English firms have established factories in Germany.

SUPERIORITY OF AMERICAN TOOLS.

The Americans, however, have won the victory in the matter of tools, which are sold now everywhere and enjoy great favor. To introduce them the committees of our agricultural unions, of which there are eight, one in every province, first distributed them as prizes at the an-

nual shows, and now the Bavarian farmers have learned to appreciate them. Still the sale might be largely increased by extending the opportunities for buying them. Only a small number of dealers do sufficient business to give direct orders for such tools. By passing through several hands they become too dear. For this reason they are excluded from a great many retail shops, and the only remedy appears to be for one or more wholesale firms to keep a well-assorted American stock for sale at as reasonable rates as possible to the trade.

HOW TO INTRODUCE AMERICAN MACHINERY.

If a number of prominent American manufacturers of the different kinds of agricultural machines and tools would combine and send out a reliable and efficient man to visit the principal towns of Germany and one or two of the leading dealers in each place, he would doubtless succeed in introducing new firms and new implements, and, as the enterprise would be at common expense, it could not be burdensome on the individual members of the association.

On or about the 1st of October a central agricultural show takes place annually in Munich, which is visited by more than 100,000 people. Connected with it is an exhibition of agricultural machines and implements, a number of which are set in motion by steam. Prizes are awarded and many sales are effected.

The farmers of Bavaria, especially the peasants, being very conservative and slow to adopt new things, will not give orders unless they can see the article, and there would, I think, be a great and satisfactory result if American machines were exhibited on such occasions.

This year a special German dairy exhibition will be held here, the second and third divisions (machinery and scientific objects) of which are to be international, and it cannot be too strongly urged that America should also enter the lists.

I can cheerfully recommend Mr. William Hummel, United States vice consul here, to agricultural firms as a reliable and efficient agent.

Thanks are due Vice-Consul Hummel for assistance in procuring data for the preparation of this report.

J. W. HARPER,
Consul.

UNITED STATES CONSULATE,
Munich, May 9, 1884.

BRANDENBURG AND POMERANIA.

REPORT BY CONSUL KIEFER, OF STETTIN.

AREA AND PRODUCTION.

In reply to the circular from the Department of State, dated February 20, 1884, relating to agricultural machinery, I have the honor to make the following report: The facts to be given and conditions to be spoken of refer to the Mark Brandenburg and the province of Pomerania. The first one covers 39,893.7 square kilometers, with over 3,100,000 inhabitants (including the city of Berlin with 1,200,000). The soil of about the half of it is good and fertile, producing besides rye and barley also wheat; the other half poor and sandy, producing

only rye, barley, a great quantity of delicious and excellent potatoes, and, in the poorest places, buckwheat. The province of Pomerania is divided into Upper and Lower Pomerania, both comprising 30,121⅘ square kilometers, with 1,462,000 inhabitants, with altogether not a fertile soil; the better part in Upper Pomerania yielding wheat, but of late years principally beet roots. That of Lower Pomerania is partly sandy and light, partly clayish and more heavy; the first one yielding only oats and potatoes, the other only becomes productive after thorough drainage, when it yields a good wheat crop. About 50 per cent. of the whole area is arable and garden land, about 8 per cent. meadows, 15 per cent. pasture, 16 per cent. timber land.

The whole is divided into small and large farms. The farmers are the owners of the land (called gutsbesitzer), and as a general rule it may be said of the single farms that the poorer the land is the larger the farms are, ranging from 200 to 3,000 acres in Upper Pomerania up to 10,000 acres in Lower Pomerania; a farm of 4,000 to 5,000 acres in Lower Pomerania being about equal in value to one of 1,000 acres in Upper Pomerania. Every inch of good soil is under cultivation, which, particularly around the larger cities, has reached a high state, and is carried on in a modern way and with improved machinery.

AGRICULTURAL MACHINERY IN USE.

The old primitive plow has been abandoned. So-called "Rajol" and "Universal" plows of steel, Scotch harrows, sowing machines and drills, thrashing machines for hand, horse, and steam power, are in general use, and the latter, built by Heinrich Lanz, in Mannheim, according to American system, have grown very much into favor. The first introduction of agricultural machinery in this part of Germany dates back to 1863, when there was an international exposition in Stettin, with the above-mentioned result, and English machines took the lead. During the French war American reapers and binders and mowers were in common use, but for different reasons have been entirely put aside since 1876: (1) because of labor being plenty and cheap; (2) the machines being complicated, and, the unskilled laborer not being used to them, became often out of order, therefore becoming useless just at the time they were needed, and expensive by repeated repairs; (3) the binders using wire are dangerous for horses and cattle, as the straw for the most part is needed for food. By far the most of all agricultural machinery used in this part of the country is made in Germany, manufactories having been established in Berlin, Dresden, Leipsic, Magdeburg, Mannheim, &c. The machines furnished are claimed to be at least just as good as the imported ones, besides being a great deal cheaper. To show the magnitude of one of these establishments I mention that Lanz, in Mannheim, sold more than 10,000 thrashing and cutting machines during the last year, and nearly 300 portable engines with as many steam-thrashing machines, amounting to nearly 3,000,000 marks, equal to $714,000. There are 800 men constantly engaged in his works, which had turned out up to April, 1883, a great many more than 100,000 machines.

Regarding prices, he furnishes, for instance, for 3,625 marks ($862.75) a three-horse power steam thrashing machine, with portable engine, freight prepaid to any railroad station in Germany, capable of thrashing, with the aid of four men and eight women* during ten hours, 100 to 120 centners of grain, using 4 to 5 centners of coal during the time

* For the benefit of those of our Americans who are not aware of German customs I may say that female help is very common in all field labors in Germany, women working in all agricultural branches.

These machines go over the whole German Empire, to Austria-Hungary, Switzerland, and even to Russia. Among the larger thrashing machines (by steam) the English system is prevalent, and particularly Clayton & Shuttleworth, Lincoln, England, are doing a good business in this line, as also Brown & May, London, with portable engines, both firms giving perfect satisfaction; of American manufactures there are none in the market. In this connection I am told that thrashing machines which would turn out clover seed perfectly cleaned could find a rapid sale, as the cleaning of this is not well done by the machines in use; but the same machine, which is used for wheat cleaning, &c., ought to do the work, as the farmers are not willing to buy two machines for the same purpose. Also the articles usually grouped with "hardware," as axes, saws, hammers, pickaxes, carpenter tools and a hundred others could easily find a market, as the American manufactures are yet unsurpassed, if only our manufacturers would take the trouble and risk the expense to bring them over, show them to the people, and explain their use and advantages. It is really ridiculous for an American to see people sawing and splitting wood here; a man and a woman usually pulling and pushing alternately with a little saw, needing at least double the length of time to cut a stick which one person needs at home; and then the splitting with the old-fashioned axes, things very similar in shape to the tomahawks of the American aborigines!

HOW TO INTRODUCE AMERICAN MACHINERY.

Of the greatest importance for the introduction of any one article is its exhibition at the agricultural fairs (district fairs), which are held in this province annually in July, under the control of the "Economical Society," changing the place of exhibition every year. The entry is open to every one, a certain amount being charged for the space used. At these exhibitions premiums are awarded. In the month of May of each year an exhibition of horses takes place here in Stettin, when also agricultural machinery can be exhibited on the same ground free of charge; but application has to be made by a citizen of Stettin. No premiums are awarded at this exhibition. Now, it is not sufficient to send machines over to an agent here to exhibit and sell them, allowing a certain percentage as commission; our American manufacturers and exporters must send their own men, men competent to put the machines in working order, to explain their construction, to show that they fulfill the purposes they are made for, even willing to give them a three days' trial, and able above all to use the German language in demonstrating the advantages and superiority of the American make. Although there are among the business men and educated classes a great many who speak and write fluently and correctly the English language, yet the benefit gained by a knowledge of the people's own language is self-evident, as it cannot be expected that the majority, and particularly the farmers, know enough of English to comprehend those explanations. It will also be advantageous to have the machines labeled with their names, the names of the manufacturers, and the fixed prices; and it will be absolutely necessary to have freely distributed illustrated catalogues in the German language. If by those means an article shall have been fairly introduced agents will be found here who will buy or take it on commission; but even then, in my opinion, it will be necessary to have men here to attend to the interests of the manufacturers, see the agents from time to time, visit the old customers and look out for

new ones. The tastes in regard to agricultural machines are for neatness of finish and stylish make up, combined with strength and durability at the same time. American fashions are very much in favor, so that in this respect our manufacturers do not need to undergo material changes in manufacturing or to adopt any different styles. As the people here are used to advanced appliances no compromise implements are needed in Brandenburg and Pomerania; perhaps they might be of advantage in Mecklenburg, where they stick to primitive modes of agriculture and old-fashioned notions, but I could not get any exact and reliable information from there; still the American agent whom I suggested could easily find out everything about it. It may be objected that it will scarcely be possible to find young men, able to speak the German language as fluently as needed, competent at the same time as mechanics and willing to go abroad as agents or commissioners; but I know by my own experience that there are in our country hundreds of good educated young men, mechanics and mechanical engineers, perfectly able and competent for the task; besides, I have no doubt that an advertisement in the public papers would bring forward a number of them in a very short time; anyhow it ought to be tried. The necessary practical experience with the special machines could be acquired within a fortnight at the different manufactories. Another great benefit for our manufacturers that would result from sending such men as agents would be that, being acquainted themselves with the construction of the machines, they could find out the difference between their own and foreign makes, and, by visiting the farms and owners thereof, would ascertain the wants, needs, and peculiarities of the customers; becoming able in this way to give the proper hints and needed information to the manufacturers at home; important matters, indeed, to which the consul cannot attend, as well for lack of time and experience as because of the expenses necessary to be incurred, and a foreign agent will not do it for the same reasons, and the want of interest besides.

HOW IMPORTED MACHINERY IS PLACED ON THE MARKET.

The way the manufactures of the several countries are introduced and placed on the market is about the same as mentioned in the foregoing. Traveling agents are sent, who exhibit the machines, go over the country, sell either directly to the farmers or to houses which make a special business out of it, and establish agencies. Larger machines are taken on commission by those houses; smaller ones bought for cash or on time. They are selling to farmers on time, even up to two years, payable in four to six installments; the balance after six months' time, with 6 per cent. interest; for cash, 1½ per cent. off. Agents expect to be sole agents for a certain district, and to get their usual commission, even if the traveling agent himself has made the bargains. There are neither partners here nor branch houses established. To put the machines in working order the manufacturer sends a machinist (*monteur*), who mounts them, and stays, if wanted, during one week, board and lodging, traveling expenses, and seven marks, equal to $1.67, wages per day to be paid to him during this time by the purchaser. The manufacturer warrants the machine to do the work it is claimed for; if not, to take it back within a three days' trial. Besides, he warrants its durability for one year, repairing caused by fault of material to be done free of charge within this time. Larger machines, as, for instance, steam thrashing machines, are often bought in company by a number of persons; also rented from the owners for 5 to 6 marks,

equal to $1.19 to $1.43, per hour. In this case the engineer has to be boarded and coals furnished by the party hiring the machine; the oil is given by the owner. When machines are imported—at present only English ones—they are always brought over by steam. After landing they are taken care of by the agent and brought directly to the place of destination, if already sold, or put in warehouses, if given on commission or bought by agents. Freight is changing, according to seasons and other circumstances. Customs dues for agricultural machines, £1.10 to £2.10, equal to $7.29 to $12.16, per ton. Customs dues for transportable engines (locomobiles), £4, equal to $19.46 per ton. Dock charges and scale fees amount to about 18 pfennings, equal to 4.28 cents, per 100 kilograms, equal to 220 pounds avoirdupois. When remaining over night a watchman is put on guard, who receives 3 marks, equal to 71.4 cents, per night. Cartage, from about 5 to 10 pfennings, equal to 1.19 to 2.38 cents, per centner, equal to 110 pounds avoirdupois, inside the city and to the railroad stations; for longer distances or heavy freights special agreements have to be made. The best and cheapest way is, it is said, to have the whole matter given in charge to a forwarding agent. Andree & Wilkerling here forward 100 kilograms from ship to railroad station for 40 pfennings, equal to 9½ cents; to the suburbs of the city for 50 pfennings, equal to 11.9 cents, including all expenses, except customs. No other taxes are to be paid. Rent of warehouse for 100 to 150 square meters, 25 to 30 marks, equal to $5.95 to $7.14 per month, differing according to location.

Direct importation is without doubt the best, for Stettin by steamer of the Stettiner Lloyd; this line will run within a month a second steamer; freight by this line will amount, as I was told at the office, to 25*s*., equal to $6.07, and 5 per cent. of this amount besides as commission, &c., for each 40 English cubic feet of space, or for each English ton, equal to 2,240 English pounds. Larger pieces and heavy freight, according to special agreement with the agent in New York, Messrs. Slocovich & Co., 74 Broad street. Transportation by the Danish Thingvalla line will be more difficult, if not more expensive, as the goods have to be transferred in Swinemünde, the outer harbor of Stettin, either to the railroad or to smaller boats. The United States is, compared with England, certainly in a very unfavorable condition, as English ships are entering the harbor of Stettin daily, American none since two and a half years, a fact to which I called the attention of the Department in my dispatch No. 13, of January 26, 1884.

BUSINESS HABITS OF THE FARMERS.

Not much more remains to be said about the business habits and systems of the people. The agriculturists are industrious, hard-working, sober, and frugal; the owners of the land mostly conservative, the laboring population following the views of the former; they are as a class indifferent in political respects; the residents of cities and towns are more active and liberal. Both have advanced in intelligence within the last generation, and in consequence lay more claim to the amenities and pleasures of life than their ancestors did, but have, therefore, also more wants. The country merchant does a better business than in olden times, the farmers exchanging their produce against his merchandise, settling the balance from time to time at irregular intervals.

IMPORTERS OF MACHINES AND IMPLEMENTS.

The following names give some of the reliable firms who are now engaged in importing and selling agricultural machinery, acting as agents

for German and English manufacturers. These very same firms, and certainly many others, would be willing to act as agents for American manufacturers, import and sell American machines, if once convinced that the business would be a remunerative one:

Paul Thurman, in Berlin; Schütt & Ahrens, in Stettin; Ernst Wedel, in Stettin.

This somewhat lengthy report may be briefly summed up as follows:

ENGLISH VS. AMERICAN MACHINERY.

Agricultural machines are getting more and more introduced, except reapers and binders, for the reasons given above; (2) Germany has made great progress in manufacturing agricultural machines during the last fifteen years; (3) American manufacturers yet take the lead in smaller hardware; but within the last years the articles already introduced are copied in a "very fair way," and furnished cheaper; (4) English make is preferred for hay-makers and large thrashing machines; (5) compared with American, English ware is preferred because of the heavy rates of freight from American ports, the higher insurance, and unsatisfactory settlements by American insurance companies in cases of losses; (6) the trade is carried on partly by traveling agents of the manufacturers, and partly by houses dealing exclusively in these articles acting as agents for a certain commission; (7) American manufacturers and importers ought to take matters in their own hands; the American consuls alone cannot do the work for them, and foreign agents certainly will not be willing to do it; (8) to bring an article into the market it is necessary that it be shown here, put in working order, and that circulars in the German language be freely distributed, giving accurate description of construction and use. The same course should be followed up to which I alluded in my dispatch No. 18, of March 8, 1884, about base-burners.* Americans ought to send over their own agents; young, energetic, honest, pleasant, and polite men, able as well to speak with the people here in their own native language, as competent to explain everything about the article they want to sell, showing its superiority and advantages above all others; they ought to exhibit regularly at agricultural fairs, keep an assortment of their goods on hand, and sell as cheap as others. Only in this way, in my opinion, may they succeed in overcoming this English and German competition; (9) England being twenty years in advance, and having regular and frequent communication by steam with this part of the country, has gained an immense advantage; (10) last, but not least, it appears that as soon as an article gives satisfaction it will be manufactured here just as good, and as it can be furnished for less cost than the imported one, because labor is cheaper, and freight and duty saved, it will be only a question of time when the home-made article will have driven out the imported one, if the latter is not prohibited under the German patent laws.

Before closing this report I cannot but acknowledge the great obligations I am under to Messrs. Schütt & Ahrens, and to Mr. Wedel, for the kindness they have shown me, and the great courteousness with which they have treated me in giving all the information wanted. I beg leave to send the first three inclosures, enumerated below, in the German language, as a translation would have postponed the transmission of this dispatch for a long time, myself and Vice Consul M. Dittmer

* See Consular Reports, No. 40, page 239.

being very busy at the time in collecting statistics for the labor circular, and no money being allowed for translations according to the consular regulations. The illustrations will speak for themselves, and, as I think, will be sufficient to show what is going on here in this line.

Knowing perfectly well that this article does not exhaust the subject at all, it is still the best I could do with the small acquaintance I have, having been here only a little more than six months, and I hope that it may enable our manufacturers and exporters to judge for themselves if it will pay to try the experiment of importing agricultural machinery into Pomerania and Mark Brandenburg.

HERMAN KIEFER,
Consul.

UNITED STATES CONSULATE,
Stettin, May 10, 1884.

[Inclosure in Consul Kiefer's report.]

GERMAN AGRICULTURAL MACHINERY.

REPORT BY SCHÜTT & AHRENS, OF STETTIN, PREPARED BY REQUEST OF CONSUL KEIFER.

The German makers of agricultural machinery have made great progress during the last fifteen years, and in most articles, as plows, rollers, harrows, broadcast-sowing machines, drills, horse-hoes, engines, gears, and thrashing-machines, winnowers, dairy implements, machinery for sugar works, starch works, and distilleries. They are now ahead of most foreign makes, both as to quality, simplicity, strength, and good material, as well as to price. Other articles, as pumps, hay presses, brick and pipe presses, peat presses, movable railroads for the field, with wagons, carts, &c., are manufactured in Germany, both good and cheap, competing well with foreign makes.

In locomotives, thrashing machines, steam-plows and reapers, mowers, corn-crushing mills, forks, and corn screens, the foreign ones are beating those made in Germany, especially the English make. Though the American reapers surpass in neatness and lightness, yet they lack mostly in simplicity and strength, as regards American reapers compared to English reapers, so that, as a rule, they are not so well adapted for our unskilled farm laborers.

Besides, the American makers have thrown such large quantities of reapers and mowers, by way of consignment, on the German market during 1873, 1874 and 1875, causing thereby to the dealers respectively, importers of American reapers and mowers, severe losses. The use of these kinds of machines, which was a very large one during and after the French war—1870 to 1874—has almost ceased since. As laborers are plentiful, the importation of both English and American harvesters has almost ceased entirely since 1876.

In horse-rakes, hay and manure forks, the American make still takes the lead, though they are copied in the last years by the German makers in a very fair way, almost as good and much cheaper, on account of the heavy freight and customs dues on American manufacture.

As to haymakers, the English are preferred to the American in many cases, on account of their being stronger. German makers build both systems.

The trade in agricultural machinery is done by houses dealing exclusively in these articles, and who buy and import them against cash or on time, and resell them to smaller dealers and to the farmers Such dealers claim from the makers certain districts as sole agents.

The heavy rate of freight from American ports, the higher rate of insurance, the risk of unsatisfactory settlements in cases of maritime losses, tend to give German dealers greater interest in English implements than in American.

I shipped from the Johnston Harvester Company, of Brockport, a large quantity of reapers to Breslau and Stettin dealers, per steamer Thorwaldsen, they had instructions to insure the machines, which they attended to, through a quite unreliable forwarding agent at New York, who charged a considerably higher premium than he actually paid, and who covered the insurance with the North Missouri Insurance Company. The steamer wrecked and said insurance company failed, and up to the present the

importers have received not a penny of dividend out of the insured amount, nor does the trustee of the estate reply to repeated inquiries.

The customs dues vary from £1 10*s.* to £2 10*s.* per ton, and for locomotives (engines mounted on wheels) £4 per ton.

Up to 1873 there were no customs duties on machinery and implements.

All countries are treated in the same way.

HESSE-DARMSTADT.

REPORT BY COMMERCIAL AGENT SMITH.

I have the honor to make the following report in response to your circular instruction of the 20th February last, regarding agricultural machinery:

FARMS IN HESSE-DARMSTADT.

So far as that part of Germany is concerned which forms my consular district the opportunity for the introduction and sale of agricultural machines manufactured in the United States is somewhat limited, although agricultural implements might with judicious management, be disposed of to a considerable extent.

In this vicinity the farms are as a rule small and very much devoted to the cultivation of garden stuff, fruit trees, and grapes. Of all the farms in Hesse-Darmstadt 94 per cent. are less than 25 acres in size, and 59 per cent. are each less than 2½ acres, so that it can be readily seen that there could not very well be a very decided demand in this neighborhood for agricultural machinery.

AMERICAN IMPLEMENTS IN HESSE-DARMSTADT.

Respecting the excellence of American machines and implements in comparison with those of other countries, the farmers and business men with whom I have corresponded and talked expressed different opinions. They all say that the articles used are mostly native manufactures, and that such as are of foreign manufacture are nearly all obtained from England, but they differ regarding the merits of American instruments and the prospect of a more extensive sale of them. Some claim that the English plows, thrashing-machines, &c., are as good as the American, and England more accessible and more connected in trade relations with Germany than the United States, while others like the American articles on account of the simplicity of their construction, working capacity, and light weight, and speak in high terms of the American machines and implements, claiming that they are superior to all others and have undoubtedly an auspicious future; the latter being in the minority.

For American wood everybody seems to have a good word to say, it being generally admitted that our hickory wood, in strength, elasticity, and lightness stands, for the particular purposes to which it is adapted without a rival.

Imported implements and machines are not as much sought after now, it is said, as formerly, as a great improvement has taken place in the articles manufactured at home, the establishments in Germany turning out about as good work as foreign countries, although not quite so solidly made as English manufactures, and selling cheaper.

Of American articles those are said to have the best chances of meeting with success which are largely composed of wood.

The American manufacturers, some say, once had a golden opportunity to obtain and hold the German market, but they made no effort to avail themselves of it, and allowed middle men to ruin all their chances, for instead of setting down at central and important points reliable and painstaking agents and branch houses, which should be in direct connection with the home establishment only, and not be the representatives of a number of different concerns, they permitted men who were the agents of dealers and shippers in America, or who were traveling in their own interest and upon venture, and trafficking in all sorts of wares, from hoes to canned beef, to take orders on their account, and then not at all or only half abide by the contracts made by the party representing them, or they egregiously impose upon the German buyer.

HOW TO INTRODUCE AMERICAN IMPLEMENTS.

Weinhein, a small place near Mannheim, Mannheim itself, Frankfort, and Leipsic, I believe, are the places where the farmers of my district buy their chief requirements in the way of machines and implements. For what they purchase they usually pay cash.

Agents sometimes travel through the country districts and sell to farmers, but the chief mode embraced by dealers for calling attention to their wares is by illustrated circulars and catalogues.

DEALERS IN IMPLEMENTS AND HARDWARE.

So far as I can learn, there is no large house at this place doing business in agricultural machines and implements. There were some parties here who some years ago endeavored to establish a trade in American implements, such as hoes, rakes, &c., but they met with such unsatisfactory experience that they gave the thing up.

The largest dealer in hardware and agricultural implements in this city says that he has been so duped by American sellers that he would not touch the American articles again under any consideration; that they are very little, if any, better than the articles manufactured in Germany, and that they cost enough more to make up for any advantage in superiority which they may possess.

IMPORTATION AND TARIFF DUTIES.

Goods can be brought from the United States to Mayence all the way by water, but as there is no one here whom I can recommend as disposed to take hold of them, it is hardly necessary for me to state tariff duties and freight charges.

The freight from the Belgian and Dutch ports to Mayence, by steamer up the Rhine, is about $2 to $3 per 100 kilograms, the character of the merchandise and the quantity thereof governing the matter very much, of course.

NATURE OF SOIL AND PRODUCTS.

The greater part of my district is fertile and under a high state of cultivation, done largely by hand labor. It is also valuable, some of it being worth $5,000 and more an acre. Its precise area I cannot give, nor, consequently, the amount of land devoted to each branch of agriculture, but much of it is garden and vine-land.

JAS HENRY SMITH,
Consul.

UNITED STATES COMMERCIAL AGENCY,
Mayence, August 6, 1884.

SAXONY.

REPORT BY CONSUL DU BOIS, OF LEIPSIC.

FARMING IN SAXONY.

The Kingdom of Saxony has 5,789 square miles of territory, and has, in round numbers, a population of 3,000,000. The acreage of the entire Kingdom is 3,604,960, the tillable portions of which are divided into small farms and large estates, ranging in size from 40 to 6,000 acres, the latter predominating.

Saxony has more fertile land, according to its area, than any other of the provinces forming the German unity. With the exception of a few districts of small area, where it is very sandy, the agricultural regions are mostly of a loamy, stoneless soil, and, in fair seasons, produce excellent harvests. In the year 1882, taking 100 as the average good crop, the statistics show that wheat harvested at 105; rye 95; barley 100; oats 115; and potatoes 110. The latter are largely grown for the distilleries, and are an important factor among the Saxon products. The large sums of money made in the beet-sugar industry created a speculative fever among capitalists, who extended this industry to the suitable regions of Saxony, and up to last year with excellent results, one firm making 11⅛ per cent. upon its first delivery. But as it is with chemicals so is it with beet sugar. There has been an enormous over production, and the competition has become so great that many of the smaller firms are suffering, and but a very small profit is made by those who have the monopoly. Go where one may throughout the tillable regions of Saxony and he will find a high state of cultivation, vast quantities of artificial fertilizers being used to sustain the producing power of the soil.

IMPROVED MACHINERY.

On every hand one notices modern implements in use, which is proof that the Saxon farmer has taken kindly to the improved granger machines. The steam plows, thrashing machines, reapers, steel plows, grinders and crushers can be found, in proper season, busily employed on most of the estates, and some of the better class of farms. Some of these steam plows come from England, and also many of the thrashing machines. A large number of the reapers and mowers, horse-rakes and steel forks are imported from America. Most of the other machines and implements used are manufactured in Saxony, but many of these are imitations of the American implements, made to suit the Saxon's idea of solidity and durability, and these imitations, with new German inventions, are gaining favor among the farming element.

AMERICAN MACHINERY IN SAXONY.

The most popular of the American machines which have been introduced into this country are the mowers, horse-rakes, and hay-forks. These are especially popular, and are preferred to the Saxon make, because they are lighter and constructed of better material.

In purchasing their implements the Saxon farmers, although generally competent judges, repose confidence in the selling agents, and rely very much upon the advice received from this source. It is, therefore,

absolutely necessary, in the interest of a substantial future trade, that none but thoroughly conscientious agents be sent into the agricultural regions, who are able to do what they promise, and avoid deceiving or disappointing the purchasers.

SYSTEM OF PURCHASE.

Solid firms usually pay the manufacturer cash after the business has been established, and allow from 3 to 6 months to the farmers. Sometimes the principal agents sell to subagents who deal directly with the farmers. This necessitates the second middleman's margin, which, in a measure, the farmer has to pay.

In the matter of transportation all wide-awake business men secure the cheapest, quickest, and safest, and what that is they will always judge for themselves. Many foreign machines are imported in pieces, and put together on the farm or at the agent's warehouse. Machines imported from England come via London, Hull, and Grimsby to Bremen or Hamburg.

TARIFF DUTIES.

Foreign machinery entering the German Empire pay duties as follows:

	M.
Machines or implements, principally of wood or cast-iron (per 100 kilos)	3
Machines or implements, principally of wrought-iron (per 100 kilos)	5
Machines propelled by steam (per 100 kilos)	8

AGRICULTURAL MACHINERY IN USE IN SAXONY.

The following is a list of the machines in general use and where they come from:

Thrashing-machines from Germany and England; drills and sowers from Germany; smaller implements of all kinds from Germany and America; fodder-cutters from Germany, small part from England; mowing-machines from America, small part from England and Germany; hay-rakes from Germany, small part from England and America; horse-rakes from Germany, small part from England and America; steam thrashing-machines from Germany; fertilizer-scatterers from Germany; fanning-machines from Germany; weeders from Germany; dairy implements from Germany, England, and Sweden; implements, such as pitchforks, hoes, spades, rakes, &c., from America and Germany.

WHAT THE GERMAN FARMER WANTS.

In most of the German machines is to be noticed a simplicity and solidity which verges on crudeness; especially is this so with the smaller implements mentioned above.

What the German pays for, the Teuton is sure to eat. He never likes to pay for anything that has only the quality of showiness. He likes solidity and durability, and is fast learning to like the practicable, and how to best develop it. In the matter of color, the German granger seems to have a preference for red; this color predominates in the agricultural machine factories of Germany. His first wish, however, is to have the machine he purchases made of good material, with strong frame work, and easy to manipulate, and also to find that it will do what it is advertised to do. The proverbial impracticability of the German is rapidly developing into significant practicability, and the Teuton, who in former years was looked upon as lacking in a large degree inventive talents, has become a most clever inventor, and not only clever,

but prolific. A single Saxon genius has in the past three years made forty inventions, seven-tenths of which have proven practicable and of value.

This rapidly developing inventive talent, combined with rare talents for imitation, cheap labor, and reasonable patent laws, are, and will be with increasing force, the great obstacles to the importation of American agricultural implements into Saxony and the German Empire.

ADVERTISING.

This consulate is often in receipt of letters from manufacturing firms in America asking for information as to the best means of advancing the commercial interests of the United States in certain branches in Europe. Often these letters are accompanied by circulars, some of which are printed in German, and it is always a pleasure to place these ducuments where they will best accomplish their intended mission. But an export trade never has been and never will be created by sending out circulars alone. In the first place circulars in English are not thoroughly understood by many who might be interested in them were they printed in German. In the second place some of the circulars received here are printed in such ungrammatical and ambiguous German that they lose, in a measure, the effect which they would have were they properly prepared. Circulars carefully prepared and printed in the German language, and then intelligently distributed, would be of value to American exporters of granger implements or anything else. If the exporters will do their duty in this respect, the consular corps, in the interest of American commerce, will cheerfully and promptly do theirs.

Another suggestion may be opportune. Upon the files of the consulate here are to be found several excellent American commercial and scientific journals. In very few of these journals can be found advertisements in German, while in all of them are advertised wares which ought to have a profitable foothold in the German markets; but the advertisements are in English, instead of in German, as they should be, in order to be thoroughly effective. These advertisements will not alone create trade; they are only the forerunners of trade, for this age has become so practicable that the actual demonstration of the practicability and utility of a machine or any other thing is demanded. A fine cut of a mower looks well on paper, but the actual demonstration of the fact that it cuts well will alone convince the German farmer that he ought to procure it for his farm. Generous but judicious advertising, followed up by energetic canvassing, has ever succeeded and always will succeed if the wares placed upon the market are what they are advertised to be.

ENGLISH VS. GERMAN AND AMERICAN MACHINES.

English exporters are showing a heaver industry in their efforts to maintain and increase their hold on the Saxon market. Since ten years they have endeavored to hold control against American and German competition, and in a measure they have succeeded, although the newly developed spirit of invention, and the clever knack of imitation which marks present German progress, are making rapid headway against the English trade. The English exporters offer every possible inducement to the German buyer. Agricultural implements are offered at

very low prices, and the manufacturer guarantees, in some instances, indemnification for damages received during transportation. The importers take them on commission or buy them outright.

HOW TO INTRODUCE AMERICAN MACHINES.

The most advisable way for our manufacturers to secure a foothold among the Saxon farmers is to form connections with responsible firms in this country, who will be able to properly introduce their machines to the market. Most of the solid firms will require at first a consignment of machines and implements, in order to learn their worth and quality, and, owing to the lively English and German competition, they will be compelled to sell at low prices. Some of the larger English firms are represented by traveling agents, and some have branch houses in Hamburg and Bremen.

Leipsic and suburbs has a population of 250,000 souls. It is the metropolis of Saxony, and is annually growing in importance as a great commercial center. The business world knows that three times a year an immense number of business men, buyers and sellers, from all parts of the globe come here to traffic at the famous *messes* which are held in January, at Easter time, and in September. During these seasons, and especially at the Easter *messe*, the city becomes one vast bazaar, in which samples of every sort of industry are exhibited, and orders are taken for the various markets of Christendom. The *messe* for Easter time has just closed. The volume of business was very great, although prices were in some branches unsatisfactory. America, Austria, Asia Minor, Belgium, Bulgaria, England, Egypt, France, Greece, Hungary, Holland, Russia, Servia, and Turkey were all represented.

These facts are mentioned to show what an important commercial center Leipsic is, and to demonstrate in this way the availability of the Saxon metropolis as a market center for the American agricultural implements and machines. It is probable that a well established connection here, with an energetic firm, would enable the American manufacturers to place their wares upon the market, because as a central point of exhibition it is second to none in Central Europe.

IMPORTERS OF AGRICULTURAL IMPLEMENTS.

The principal firms known to this consulate now engaged in the importation of agricultural machinery and implements are Biernatzki & Co., Hamburg; George Silcox, Bremen and Brussels, and Jacob & Becker, Leipsic. The latter firm have been doing business here for over fourteen years, and have many subagents in different parts of Saxony and Middle Germany.

JAMES T. DUBOIS,
Consul.

UNITED STATES CONSULATE,
Leipsic, May 28, 1884.

SILESIA.

AGRICULTURAL MACHINERY IN SILESIA.

REPORT BY CONSUL DITHMAR, OF BRESLAU.

AREA, POPULATION, AND FERTILITY.

The province of Silesia has an area of 15,556 square miles, and, according to the most recent official estimates, a population of 4,007,925. That part of the country which lies to the left of the Oder River has in the main a very fertile soil, while that to the right of the river, with 47 per cent. of sandy and 34 of mixed soil, is much less productive. Besides plaster of paris, deposits of marl have been found in some parts of the province, and by the use of this latter material, combined with other fertilizers, both natural and artificial, many estates on the right of the Oder have been rendered as productive as those on the left. In the best agricultural districts an acre of land is estimated for taxing purposes to yield a clear profit of $3 per annum; in other districts, from 80 cents to $3. These estimates, upon which the State *grundsteuer* or land tax is based, are, as shown by the high price of the land, much too low. An early revision of the estimates is said to be contemplated by the authorities.

PRODUCTS.

The yield of breadstuffs is more than sufficient for the population of the province. Wheat is grown in the bottom lands of the Oder, but the principal food crop is rye, followed by potatoes. Barley and oats are grown in large quantities, and the oil-yielding plants are also among the favorite crops. Thousands of acres have in recent years been devoted to the cultivation of the sugar beet. A decline, however, as marked as its sudden rise in favor, is predicted in the cultivation of the beet, as at the low price of sugar ruling for some time the business of sugar-making cannot be carried on with profit unless a large reduction is made in the price of beets. They cost hitherto 24 cents and upward a hundred weight. Manufacturers are now offering as low as 15 cents.

AGRICULTURAL IMPLEMENTS.

There are in the province about 4,500 large estates, known as *Rittergüter*, *Herrschaften*, *Handesherrschaften*, *Dominien*, *Domaine*, *Landgüter*, *Rusticalgüter*, and all embraced in the general designation of *Grossgrundbesitz*, except that some *Rusticalgüter* are classified with the *Bauerngüter* (small farms and peasant holdings) under the head of *Kleingrundbesitz*. There are no statistics which give any reliable information regarding the number and extent of the small farms, but the larger estates vary in size from 100 to 23,000 acres, the larger ones consisting mainly of woodland; the average size is about 800 acres. While the agricultural implements in use on the thousand or more small farms are generally of the simplest description, nearly all the large estates are supplied with implements and machinery of the most modern kind, which for the greater part have been introduced here since 1866, steam thrashers, reapers, improved plows and harrows. Steam plows

(mostly used in sugar-beet fields), harvesters, binders, cultivators, &c., have been in almost general use since the prosperous years immediately following the war with France. With the greater supply of cheap labor, however, in more recent years, some of the labor-saving inventions, notably the reaping machines, have fallen into partial disuse. Where still in use the original invention has been generally supplanted by the cheaper German imitation.

ANNUAL MACHINERY FAIR AT BRESLAU.

At the annual machinery fair which closed on Wednesday evening, June 11, two hundred and forty-nine exhibitors had almost exclusively agricultural machines and implements on exhibition, but there were fewer articles of American manufacture than were to be seen in previous years. The German imitations, offered at a price lower than the cost of the genuine article and worth probably less than the price, were numerous. One American implement, the Acme pulverizing harrow, which was for the first time on the ground, attracted much attention. American reapers and other articles were formerly imported by the brothers Gulich, one of whom was a naturalized American; also by Mr. Humbert, agent for Marshall, Sons & Co., and by other firms dealing in agricultural implements. The Gulichs have gone out of the business, and Mr. Humbert has ceased importing from the United States, dealing now only in English machinery and some implements of German make. Walter A. Wood's Berlin house exhibited grass and grain mowers and binders, and a few Silesian firms still had some American inventions among their exhibits.

AMERICAN AGRICULTURAL MACHINERY.

Efforts were made about ten years ago to introduce the American portable engines and steam thrashing machines, but for some reason they met with no success. Possibly those brought here were not of the best manufacture. I have heard that the thrashers were too lightly put together, that the wood warped; and other defects have been mentioned. Be this as it may, the fact remains that no thrashers can be sold here which break and tangle the straw, as this article is very valuable. The thrasher must winnow and grade the grain, and be able to endure rough handling. Some of the thrashers of Marshall, Sons & Co. on exhibition had an apparatus attached for binding the straw as soon as thrashed. The machines of this firm, by the way, seem to be the favorites with the agriculturalists of this district, twenty-five to thirty sets being sold each year. Nine sets were disposed of at this year's exhibition. During the "flush period" as many as fifty sets were sometimes sold in one week, and should the farmers have a few good harvest years a fairly good business in agricultural machinery can again be looked for.

Of the above-mentioned thrashers, those of 8-horse power are most in request. The price of the set engine and thrashing machine is $2,200. They are usually imported in steamers via Hamburg, occasionally via Stettin. Duty, on engines, 95 cents per hundredweight, on thrashers, 36 cents per hundredweight. Freight from Hamburg to Breslau per 8-horse power set, $156 to $160.

ENGLISH AGRICULTURAL MACHINERY.

The English machines are made durable, but without ornamentation. Some are painted, others varnished. A thrasher lasts from ten to

fifteen years. All the dealers have shops for making repairs, and several take second-hand machines in part payment, repair them and hire them out during the thrashing season. The demand for them is quite large.

The firms selling English machines here are H. Humbert, agent for Marshall, Sons & Co., Gainsborough; Robey & Co., branch of manufacturing establishment at Lincoln; Shorten & Easton, agents for Brown & May and Nalder & Nalder; I. Kemna, agent for Clayton & Shuttleworth, Lincoln; B. Hirschfeld, agent for Ruston, Proctor & Co., Lincoln; Stern Brothers, Brown & May and Nalder & Nalder; H. F. Eckert, agent for William Forster and for Savage steam plow.

The following are the prices of two of the above firms for thrashers and portable engines. A discount of 4 to 5 per cent. is usual on cash purchases and sometimes on short credit.

THRASHING MACHINES.

Horse-power of engines.	Width of drum.	Diameter of drum.	Price.
	Inches.	*Inches.*	
4 to 5	54	18	$738
4 to 5	42	20	726
5 to 6	48	20	750
6 to 7	54	20	797
7	60	20	844
7 to 8	54	22	862
8 to 9	60	22	926
9	66	22	976
9 to 10	60	24	988
10	66	24	1,047

ENGINES (ON WHEELS).

Nominal horse power.	Diameter of cylinder.	Length of stroke.	Revolutions per minute.	Weight.	Price.
	Inches.	*Inches.*		*Cwt.*	
2½	5½	8	180	32	$583
3	6½	9	150	40	702
3½	6½	9	150	43	773
4	7	10	140	50	845
5	7½	12	130	60	940
6	8½	12	120	69	1,023
7	9	14	120	77	1,106
8	10	14	120	86	1,190
9	10½	14	120	93	1,288
10	11	14	120	105	1,356
12	12	14	120	113	1,571

WITH TWO CYLINDERS.

10	7½	11	120	105	1,487
12	8½	12	120	118	1,701
14	9	14	120	123	1,904
16	9½	14	110	150	2,094
20	10½	14	110	180	3,499

A few years ago, in a dispatch from this consulate, the price-list of another house was given, which is here produced. The firm having a branch house in this city, and consequently no agent's commission to pay, has reduced these prices 10 per cent.

PORTABLE ENGINES.

4 horse-power	$857
5 horse-power	952
6 horse-power	1,048
7 horse-power	1,142
8 horse-power	1,238
10 horse-power	1,429
12 horse-power	1,595

THRASHING MACHINES.

3 feet 6 inches	$702
4 feet	786
4 feet 6 inches	833
5 feet	893
5 feet 6 inches	958

HOW TO INTRODUCE AMERICAN AGRICULTURAL MACHINES.

In order to introduce American agricultural machines here it would be necessary to offer special inducements to persons already in the business, or to establish agencies and repair shops. If a set could be sent to some responsible man, with the privilege of hiring it out during the season, its work, if satisfactory, would be its best advertisement, and would enable it to enter into successful competition with the English machines, which now control the market. But it must be borne in mind that the agriculturists hereabouts, although they sell their products for cash only, seldom pay cash down for their farm machines and implements; hence the dealer, unless a liberal discount is offered, will not be likely to pay cash for an article of whose ready sale he is not assured, especially if he can obtain better terms nearer home. An American agency established here, with the best machines and implements in stock, and properly conducted, would no doubt eventually meet with success. Pamphlets, hand-bills, and circulars will not secure orders.

BRESLAU MACHINERY EXHIBITION.

The machinery exhibition is held in the first or second week in June every year. Applications for space, for which there is no charge, accompanied by descriptions of the articles to be exhibited, are received by W. Korn, general secretary, No. 6 Matthias Platz, no later than the 31st of March.

HENRY DITHMAR,
Consul.

UNITED STATES CONSULATE,
Breslau, June 21, 1884.

THURINGIA.

REPORT BY CONSUL MOSHER.

AGRICULTURAL IMPLEMENTS IN USE IN THURINGIA.

Agricultural implements in Thuringia are of a decidedly rude kind. I was lately examining some old wood-cuts representing agricultural scenes in this vicinity in the fifteenth century, and it surprised me to see how closely the implements therein portrayed resembled those now actually in use.

The ordinary hoe is what we usually call a "grub" in the United States, and consists of a mere wedge of iron about 6 inches in length, 2½ to 3 inches broad, and one-half inch thick, tapering to a thick edge, with an eye at the top 2 inches in diameter, into which is inserted a stout handle from 2½ to 3 feet long. It is used for loosening the soil, "hacking" up weeds, digging potatoes, and for all the work to which the hoe is ordinarily put in the States. A broad and thin concave iron plate, with a handle 6 feet long, is in frequent use on the highways, but it is rarely used on the farm.

The plow is a rudely shaped implement, with a rough coulter, a rougher molding board, a nearly straight and unfinished beam, and awkward handles. It is usually fastened to a pair of low wheels, with a 2-foot axle, and is often equipped with a flange-board, such as is used to throw snow from the sidewalks in the smaller New England cities. Deep plowing is not practiced.

The scythe is particularly noticeable for its ungracefulness. It consists of an iron blade, from 20 inches to 2 feet long, and from 2½ to 3 inches wide, tapering to a blunt point. It is frequently hammered out and fashioned by the village blacksmith, and has only such a curve as he with his tools can give it. In fact, it is nearly straight. It is often rubbed upon some convenient doorstep to sharpen it, or upon some projecting shale of slate in the field, the rock throughout the district being of a slaty character. The weight of the scythe is from three-fourths to 1¾ pounds.

The snath is the fit complement of the scythe. It is a straight stick about four feet long, with only such a curve, if any, as nature has given it, and with a straight nib about one foot long, projecting upward at a right angle to the snath about two-thirds of its length from the end to which the scythe is fastened. At the upper end of this nib is a hand-piece, at a right angle to it. The method of using it is to grasp the end of the snath with the left hand, the hand-piece at the end of the nib with the right, and then in a quite stooping posture to sweep the broad thin blade over the surface of the field.

The rake is neither better nor worse than the scythe and the hoe. It is made of light wood, but it is an uncouth implement, with a shortish, stout handle, often with iron teeth or else with roughly-fashioned wooden ones, the whole being devoid of symmetry and grace. It is usually a home-made tool, like the hay-fork, which is generally of wood, although properly speaking the fork is as nature has shaped it, for it is a part of the natural growth of the forest, so selected and cut that two projecting limbs or roots form the prongs. Preparing growths of this sort for the market is actually one of the private industries of the district, and many of its products are exposed for sale in the early summer at the village grocer's.

If I should describe the ax of the country it would be by taking a modified pick-ax as a model. It resembles two old-fashioned iron wedges welded together at the heads, with an eye in the center for a handle. It is a double-edged tool in the same sense that the pick-ax is a double-pointed one, and except for hacking and splitting, it is only a little more serviceable as an ax than this implement would be. It is from three to five times as heavy as the genuine ax.

To meet a possible suspicion of exaggeration I must say that I have thus far soberly and truthfully described the farming tools which are in actual use in the large majority of cases throughout the district. There are, indeed, modern and improved tools of the various kinds that I have mentioned, but they are comparatively few and are found only

on the more advanced farms, like the few, for example, which are under ducal management as "models," and where agriculture is practiced in an intelligent and progressive manner.

As a rule the farms are small and are often leased. The soil is rather light and sandy.

Agricultural machines, such as mowers, reapers, &c., are not often seen.

A PECULIARITY OF AGRICULTURE.

A peculiarity of agriculture throughout the district is that in most of the farm work cows take the place of oxen and women the place of men. Cows do nearly all the drawing, even to the plowing, while women hold the plow, plant and hoe, shovel the manure, and often "tote" it to the fields in baskets strapped to their backs, mow, pitch, harvest, &c. They also do much of the thrashing with the primitive hand-flail. The ordinary thrasher is worked by horses, which travel in a circle, the same as the machine for grinding clay is worked in American brick-yards.

INTRODUCTION OF AMERICAN TOOLS.

Would the introduction of American agricultural tools into the district prove profitable?

Only comparing the tools of the two countries one would say yes. But a gentleman in Coburg imported some American implements, such as rakes, scythes, &c., about ten years ago, and the venture was not successful. The people regarded them as too frail, but, so far as any comparison could be made, they actually rendered more service than the rude native tools.

In the territory under consideration, embracing about 4,360 square miles, there is a population of 1,017,807, giving 233 persons to the square mile, or nearly ten times as many as in the United States. Of the whole population 496,383 are male, and 521,424 are female, or a surplus of more than 25,000 females.

Now, if the population seems somewhat crowded and also poorly divided, to encourage the expectation of agriculture on a thriving scale, yet it should be remembered, first, that a large majority of the inhabitants are farmers; and, second, that the greater part of the work is done by women. Consequently there should be a demand for agricultural tools, and they should be adapted to women's use. But the modes of agriculture are so primitive that tools of a more simple manufacture and of an apparently durable quality would receive the preference. The graceful and natty hand implements which "tickle," as Douglas Jerrold might say, both the soil and the heart of the American farmer would be regarded here as more ornamental than useful.

PRICES.

One who would import farming tools into this district should consider the prices of the native implements with which he would have to compete. The hoe, for example, costs here from 17¾ to 35.7 cents. The ordinary shovel, with a straight rough handle, costs from 16.6 to 27.4 cents, the average being about 23.8 cents. I have seen a few spades in the market imported to Frankfort-on-the-Main by Wade, of Philadelphia, which retail at 71.4 cents, while a German manure-fork purporting to be of steel retails at 95.2 cents. The plow, which is gotten up jointly by the carriage-maker and the blacksmith, is estimated to cost from

$3.50 to $7, the average being about $6. The hand-rake costs from 6 to 8 cents, and a little more than that when the teeth are of iron. The scythe sells at from 28.5 to 47.6 cents according to the quality and weight, the average weight being about 1¼ pounds and the cost 40 cents. Labels, implying that the scythes are of Swedish manufacture, are often found pasted on to the blades, but several merchants have assured me that they were a German product, and that the label was to aid in selling them. The Philadelphia spade mentioned above, I have also seen on sale in Dresden as of English manufacture. The ax costs from 23.8 to 40 cents, and a wood saw, framed, from 41.6 to 59.5 cents. A heavy wheelbarrow of oak, and well ironed, costs $2.26.

MEANS OF INTRODUCTION.

In my judgment the best means of attempting the introduction of American tools into this district would be to expose samples in the principal centers like Sonneberg, Coburg, Meiningen, Eisenach, Gotha, Erfurt, Weimar, and also to exhibit samples at the great Leipsic fairs at New Year's and Easter, which draw together business men from all parts of Germany, and from other European countries.

GEORGE F. MOSHER,
Consul.

UNITED STATES CONSULATE.
Sonneberg, May 9, 1884.

WÜRTEMBERG.

REPORT BY CONSUL CATLIN, OF STUTTGART.

EXTENT AND DIVISION OF TERRITORY.

The entire cultivable area of the Kingdom of Würtemberg embraces 1,183,019 hectares, with 313,519 owners. Of this area 637,408 hectares consists in farms of less than 10 hectares each, with 286,894 owners, and 89,142 hectares in farms of less than 1½ hectares each, with 145,085 owners. The remaining 545,581 hectares, consisting of farms of over 10 hectares, are divided among 26,625 owners. The division of territory may therefore be summed up as follows:

Dimensions of farms.	To every 100 farmers.	To every 100 hectares.
One and a half hectares and under	46.28	7.53
From 1½ to 10 hectares	45.23	46.35
Over 10 hectares	8.49	46.12
Total	100.00	100.00

NATURE AND PRODUCTIVENESS OF SOIL.

While a geological description of the character of the soil is not deemed essential to the purposes of this report, it may be stated that the surface of the territory is generally undulating; that it is traversed from northeast to southwest by the range of the Suabian Alps, and that its southwestern section, bordering on the Danube and the Lake

of Constance, consists largely of meadow lands, peculiarly adapted to grazing and cattle growing. The soil of the central and northwestern sections is especially favorable to the cultivation of the grape, while cereals and vegetables are successfully grown in all parts of the Kingdom. The subdivision of the cultivable area, excepting vineyards, is as follows:

	Per cent.
Grain, &c	61.73
Potatoes and other vegetables	13.07
Fodder, &c	15.24
Gardens	1.12
Pastures	1.32
Fallow land	7.52
Total	100.00

In addition to the foregoing there were in 1882, according to the latest published statistics, 23,370.69 hectares devoted to vineyards, and 7,029 hectares to hops. The productiveness of the soil may be shown as follows:

Description.	Average yearly yield of grain.	Total yield in 1882.		Yield per hectare in 1882.	
		Grain.	Straw.	Grain.	Straw.
Wheat:	*Owts.*	*Owts.*	*Owts.*	*Owts.*	*Owts.*
Winter	25.50	28.65	64.01	452,469	1,010,713
Summer	22.27	24.32	57.60	381,489	903,823
Rye:					
Winter	23.70	26.19	72.67	843,875	2,382,700
Summer	19.38	19.45	54.78	123,974	349,939
Barley:					
Winter	26.39	29.55	43.29	59,102	86,732
Summer	29.15	30.94	43.97	2,786,759	3,962,472
Oats	24.55	26.20	51.65	3,461,377	6,828,588
Buckwheat	.....	16.66	31.63	297	573
Millet	.....	16.83	30.16	1,915	3,432
Maize	30.31	27.91	48.82	37,855	79,818
Peas	21.68	17.79	33.73	38,605	75,289
Potatoes	177.88	68.05	.....	5,468,672	.....

The average annual yield of wine per hectare for the last 56 years has been 2,248 liters. The hop crop of the Kingdom for 1883 is estimated at 45,000–50,000 hundred weight.

AGRICULTURAL CONDITION AND MODE OF CULTIVATION.

The bulk of the cultivable area, being divided up, as above stated, among a large number of owners, who are peasants of small means, and entirely dependent upon the product of their farms for their support, there exists consequently a high general state of cultivation; hand-labor prevails to a great extent, and the implements used are mostly of the simpler kinds. No small farmer can afford to avail himself of the larger and improved machinery; and no system of combination exists among the farmers whereby such machines can be purchased and used at their joint expense. In the vineyards, which are mostly terraced hill-sides, hand-labor alone would, in any case, be possible.

AN OFFICIAL OPINION.

The *Landwirthschaftliche Centralstelle*, an institution maintained at Stuttgart by the Würtemberg Government for the fostering of all inter-

ests, and the dissemination of all useful information connected with the development of agriculture, has kindly placed me in possession of all the available facts bearing upon the other questions contained in the circular calling for this report; and I transmit these facts herewith in the form in which they were given to me, *i. e.*, as answers to various questions propounded by myself:

Question 1. What agricultural tools, implements, and machinery are used in Würtemburg?

Answer. Such as are generally used for agricultural purposes. (See catalogue of factory at Hohenheim, Appendix 1.) In addition to hoes, spades, forks, rakes, shovels, &c., one finds in general use: (1) plows and harrows; (2) rollers, hack-plows, ridge-plows, sowing-machines, extirpators, fodder-cutters, corn-crushers, turnip-cutters, thrashing-machines, and (3) harvesters; *i. e.*, mowing-machines, hay-makers, and horse-rakes, and these latter to a less extent for the reason that in Würtemberg agriculture is mostly in the hands of small farmers, landed property being greatly divided up, and few large estates existing.

Question 2. To what extent do advanced appliances prevail? Are foreign tools, implements, and machines in use; and, if so, from what country are they imported; what sorts are imported from each country, and what satisfaction do they give?

Answer. Advanced appliances are in use, but to no great extent, for the reason stated in the foregoing reply. Sowing-machines, mowers, hay-making machines, horse-rakes, and steam-thrashers are imported from England. Harvesters, such as corn and grass mowers, hay-makers, and horse-rakes, are imported from the United States. Upon the whole, however, Würtemberg's export of agricultural implements and machines is larger than her import, and there is an increasing domestic manufacture of steam-thrashers, sowing-machines, and hay-rakes. The only articles now not manufactured in Würtemberg, but exclusively imported, are mowers and hay-makers. The accompanying catalogues of various firms (see Appendices 2–6) give an idea of the extent of domestic manufacture.

Question 3. How do the American manufactures compare with the others?

Answer. On the whole favorably, as many farmers prefer the comparatively lighter and more finished yet solidly made American machines to the heavily-built English ones. (In this connection note, however, the closing sentence in reply to question 8.)

Question 4. How are the manufactures of the various countries introduced and placed on the market? Is it by agents, partners, branch houses, &c.?

Answer. Principally by local manufacturing firms, who, however, do not correspond direct with the manufacturers in America, but purchase from Hamburg importers.

Question 5. What is the best method of introduction?

Answer. That mentioned in the foregoing answer, inasmuch as the local manufacturers, being familiar with the business, can give a better guarantee of the imported wares and better look after the necessary repairs than could mere agents not trained to the business.

Question 6. What peculiar business habits and systems, if any, exist among the agricultural population, as well as among the residents of towns and cities in the kingdom; and on what system are purchases made, time or cash?

Answer. As a general rule time payments are in vogue, such as drafts at ninety days, or six months, against one year's guarantee; part of an account is sometimes not even paid until after the guarantee period has expired. Cash payments on the delivery of the goods are less frequent.

Question 7. How are the machines handled from the time when landed until they come into the farmer's possession?

Answer. They are kept stored in the warehouse of the local firm introducing them. There is no further handling save such as is necessary to keep them clean and in order until sold.

Question 8. What are the tastes of the Würtemberg farmers in regard to machinery, tools, and implements? Do they prefer neatness of finish and general stylish make-up, or are not strength and durability associated in their minds with heaviness and a certain amount of crudeness?

Answer. While the tastes of the farmers of course vary individually in this regard, most of them prefer a somewhat more elegant and lighter work, not too coarsely finished. They do not, however, like an excessive style of finish behind which a lack of solidity may be supposed to exist. Most of those farmers importing tools and implements or using imported ones belong to a more intelligent class, capable of appreciating a combination of elegance with solidity, and who do not believe that solidity necessarily involves cumbrousness and coarseness of construction. In the agricultural shows hereabouts complaint is sometimes made that the American manufacturers

trim up and polish their machines, tools, and implements to an excessive degree, and that they aim too much at outward display, with a view thereby to dazzle the public eye.

Question 9. What efforts have been made by manufacturers in other countries for the enlargement of their sales? And if any, since when, and with what results?

Answer. On this point no particulars are accessible, but inasmuch as the importation of machines from other countries is inconsiderable, it is fair to presume that no great efforts have been made.

Question 10. What are the names of men or firms importing agricultural machinery, &c., and who are engaged, wholly or partly, in the business of selling the same?

Answer. While no definite information is available in reply to this question, the only houses generally known to us as attending to the importation of agricultural implements, &c., from other countries, including the United States, are Paul Gross, at Hohenheim, and A. Blessing, at Zuffenhausen. Yet, as already stated, their importations are not extensive, as Würtemberg is no important market for larger, and especially harvesting machinery. (Catalogues of the two houses named accompany this report.)

IMPORTERS OF AGRICULTURAL IMPLEMENTS.

In addition to the two firms mentioned in the foregoing report from the Centralstelle, I would add the names of Gebrüder Eberhardt, Ulm, J. Eckhardt & Sohn, Ulm, J. Weipert & Söhne, Heilbronn, and W. Speiser, Göppingen, whose catalogues and price lists also accompany this report.

CONCLUSION.

After a careful study of the foregoing facts and figures, and an observation, prompted, not merely by the occasion of this report, but covering the entire period of my consular residence here, I beg to give it as my opinion that, owing first to the subdivision of the land into very small farms, and second to the active and enterprising competition of her home manufacturers, Würtemberg offers at present no great field for the introduction of American or other foreign implements, tools, and machinery for agricultural purposes.

GEORGE L. CATLIN,
Consul.

UNITED STATES CONSULATE,
Stuttgart, July 17, 1884.

BELGIUM.

ANTWERP.

REPORT BY CONSUL STEUART.

SUBDIVISION OF LAND.

The agricultural districts of Belgium are divided into such small tracts or farms that there is sale only for the smaller classes of agricultural instruments and tools, such as forks, spades, plows, &c. There is no sale for the large agricultural machines such as reapers and mowers, no farms being of sufficient size to use them. Especially is this the case in this consular district of Antwerp, where a great portion of the land is given up to pasturage.

PRIMITIVE HABITS OF THE BELGIANS.

Belgians are very loyal to their home productions, many of which are excellent; and the farmers and country laborers are wedded to the old styles and shapes of tools with which they have always worked, and to which they have become accustomed. This prejudice is very hard to overcome. A gentleman owning a large estate near this city, and employing a good many native laborers, told me that his men preferred the tools made in the village to newer and better ones that he would be glad to give them; and so determined were they that he could do nothing but let them have their way.

AMERICAN TOOLS AND HARDWARE.

There is a fair demand, however, for American tools and shelf hardware, and this demand will increase in due time as the goods grow into more general use and become better known. So far as I can learn, this trade is now worked up to the demands by parties in different places dealing in American specialties.

There is no merchant in this city engaged solely in handling agricultural implements; they are sold in connection with hardware and other goods. The stocks held here come principally from England, some from Germany, and some from the United States. The merchants tell me that the American manufactures always compare favorably when brought into competition, and are generally preferred. England has the advantage of being a near neighbor and of being often visited by the Belgian merchants, who can thus have the opportunity to see a variety and select such articles as they need or think will sell.

One of the merchants of this city, Mr. F. Baartman, who has a proper appreciation of American industries, has done some business in them and is anxious to increase his trade, is now building a warehouse where he hopes to have sufficient room to show to advantage the implements, tools, and other articles of American manufacture that he is desirous to introduce here. I would offer his name in answer to the request made for the names of men or firms who would be willing to engage in the sale of American agricultural implements.

Brussels is the attractive shopping or purchasing center for Belgium, and is where the latest novelties and largest assortment of goods are to be found; it is only one hour distant from Antwerp and draws away a good deal of the retail trade that should supply itself here.

WHAT THE BELGIAN FARMER WANTS.

Merchants and manufacturers who desire to cater to the European trade and to open up a market for their goods, must bear in mind that for this market the cost of the article is the chief consideration. The farmer wants a good solid substantial article at the lowest price, strength and a certain amount of finish is demanded, but stylish make-up and extra finish would be money badly invested. It might be admired, but would not be paid for. The first question is the price, and none but cheap goods can be sold. The American manufacturer can only compete successfully when he can place his goods on the market with a little better finish and at the same price as those made in Europe.

AN AMERICAN AGENT IN BELGIUM.

The American reapers and mowers have been generally introduced and are largely used throughout Europe. Their success is owing, after

their merits, to the persistent well-directed efforts and energy of the American agents of the different factories who had charge of them who thoroughly understood the machines and exhibited and worked them satisfactorily in every country in Europe. Now, reputation and business being established, the principal mowing and reaping firms in the United States have their offices and warehouses in one of the great centers, either London, Paris, or Brussels, from which to supply the continental demands.

In this connection I would call attention to an enterprising American, and I believe the only one now established on the continent of Europe, making agricultural machinery, implements, and tools a specialty, and one who, by extensive travel, practical knowledge, good judgment, and hard work, has built up from a small beginning a very large and successful business. I refer to Mr. George W. Sillcox, who, recognizing the importance of the central position of Brussels, and the advantages of the cheap railway service of Belgium, has established his chief office and exhibition in Brussels, in addition to his warehouses in Hamburg and Bremen. He acts for the manufacturers who put the control of their wares in his hands, so that he can treat directly from the manufacturer to the large dealers, and can concede territory and protect it. His catalogues are admirably gotten up, are illustrated, and printed in English, French and German. The prices are stated in the currency of the country, and cover all goods that come under the category of agricultural implements, and tools, besides other articles. Mr. Sillcox knows the kind of goods suitable and salable in the different parts of the continent, and I, having known him personally for a number of years, do recommend him as the safest and best posted adviser for any manufacturer in the United States desiring information from this side.

This consulate, and I suppose all others, is constantly in receipt of catalogues and price-lists, *in English*, from parties in the United States, with a request that they be distributed among the trade and that the names of dealers in their goods be forwarded. Whilst this is done so far as possible, yet it is generally time and money thrown away, for if the papers could be laid on the desks of parties for whom they are intended, the language, being unintelligible in the great majority of cases, would render them of no value. For this country French and Flemish are the languages needed, and the lowest prices and best conditions of sale should be given.

ANTWERP AS AN ENTREPOT AND PORT OF TRANSSHIPMENT.

Probably one of the most important factors for assisting the introduction and furthering the sale of American industries abroad is to be found in the securing of cheap freights from home ports to the various points of delivery in Europe, and for this purpose Antwerp comes to the front as the best port and best distributing point on the continent. The improvements that have been going on for some years and now nearly completed give to this port the finest and most convenient docks to be found on the continent. The railways encircle the quays and docks, fine sheds protect the goods, and the most approved appliances being in use, no port offers such facilities for the handling and transshipment of merchandise. There are two lines of steamers sailing weekly, sometimes three steamers a week, to the United States. There is a direct steam communication between Antwerp and almost every known port in the world, and through bills of lading can be had into all the interior of Russia, as well as to the seaports. The cheap railway

service of Belgium enables them to carry freight into France, South Germany, and Austria cheaper than from any other port. This matter of cheap transportation is a very important one, and the advantages that Antwerp offers in this respect are worthy the consideration of all manufacturers and merchants sending goods to any part of Europe.

JOHN H. STEUART,
Consul.

UNITED STATES CONSULATE,
Antwerp, April 28, 1884.

BRUSSELS.

REPORT BY CONSUL WILSON.

AREA AND SUBDIVISIONS INTO FARMS.

The entire territory of this Kingdom embraces 2,945,593 hectares of surface, of which 2,663,000 are devoted to the various forms of agriculture, and this is subdivided amongst so great a number of proprietors or owners that Belgium might be appropriately regarded as a land of large gardens rather than small farms.

In the entire Kingdom there is not more than one estate out of every thousand embracing one hundred hectares of land, whilst in the most flourishing agricultural districts, viz, in East and West Flanders, there is a fraction less than two in every 10,000. In the entire country there are not more than 5,500 farms containing 50 hectares, whilst there are 317,964 of less than six acres, and 247,551 of less than three; hence it will be seen that the mean size of the farms in Belgium is, in all probability, smaller than in any other country in the world.

NATURE OF SOIL.

No uniform feature of soil characterizes the country generally. On the western frontier, bordering the sea, we have the sandy and polder regions, the natural soil of the latter being chiefly composed of decomposed organic matter and of the former of ferruginous sand and gravel; thence eastward it changes to sandy loam, afterwards to clay, and from that to a calcareous and carboniferous combination, terminating on the eastern Ardennes frontier with a Schistic quartz formation.

CULTIVATION AND CROP PRODUCTS.

With the exception of the polder region the natural quality of the soil throughout the country cannot be regarded as rich or peculiarly adapted to agriculture, and yet by intensive fertilization, a judicious rotation of crops, and the most careful and laborious culture, the average yield of agricultural products for the entire Kingdom exceeds perhaps that of any other country in Europe. As an evidence of what may be done by an intelligent and careful cultivation of a poor and rebellious soil I give below some details relating to crops and their mode of cultivation in that portion of this Kingdom known here as East and West Flanders, at present one of the most flourishing agricultural districts of the country, and supporting a larger population per square mile than any other agricultural country in the world, yet in the natural qualities of its cultivable land one of the very poorest in the Kingdom.

These two provinces embrace together 1,482,656 acres, the soil of four-fifths of which is chiefly composed of sand and silicious pebbles, underlaid by a hard, red, ferruginous substratum that in some instances has to be broken up by the pick in order to make it penetrable either to water or the roots of ground crops, and yet by proper fertilization of their land these Flemish farmers grow in great variety the finest crops of the Kingdom upon this naturally poor soil. The mean yield of wheat per acre in these provinces rarely falls below 27 bushels; of rye, 27; of barley, 40, and of oats, 45 bushels. In addition to these large crops of cereals, immediately after they have been harvested, there are almost invariably grown upon the same ground, as a second crop, turnips or carrots, which, in point of profit, sometimes surpasses the first of cereals and furnishes a cheap and nourishing food during the winter for both horses and horned cattle, the latter of which are usually stall-fed during the entire year. The mean crop of potatoes grown on this land is about 440 bushels per acre; of peas 25, and of beans 26 bushels. Clover, cabbage, beets, and numerous other vegetables are grown with equal success on every available spot of land and greatly contribute to the annual money value of the cultivators' product.

These large results from a soil naturally so poor and ill adapted to agriculture are solely due to intense fertilization, intelligent rotation of crops, and an assiduous cultivation. In the way of fertilizers nothing obtainable that can to any degree enrich the land is neglected. In addition to ordinary stable manure, all kitchen and other garbage of every kind, the dredgings of ponds and small streams containing decayed leaves and other vegetable matter, the mud collected from public highways, the pulp of the sugar beet, oil cake, scraps of leather from tanneries, cinders, soot from chimneys, and, in short, every available fertilizer found within the territory is collected with scrupulous care and placed upon the land, and to all this the farmers annually add a large amount of nitrate of soda and guano. It is estimated that from 80 to 100 francs per hectare of cultivable land is annually expended by the agriculturists of these provinces for fertilizers alone; which is probably more than is paid for this purpose by any other set of farmers on the globe. The cultivation of a soil upon which, for this item alone, so much is annually expended, implies a high aggregate expense to the farmers, and this, indeed, is the case; for whilst in England the maximum of all costs of cultivation per hectare is equal to about 400 francs, in Flanders it amounts to at least 800 francs, and on some of the smaller parcels of land in the vicinity of market towns it not unfrequently attains 1,000 francs. It would seem almost incredible that agricultural land in any country upon which even 800 francs or, say, $160 per hectare (less than 2½ acres) is annually expended upon the various items entering into its cultivation can be made to pay; and yet in these provinces it certainly does, for it not only supports a population of 248 souls per square kilometer, or a little over half a square mile, but, according to statistics furnished by the Government, keeps up the value of farming land to a mean cash price of over 5,000 francs per hectare.

Various causes doubtless contribute to work out these almost unparalleled results from land devoted to agriculture. In the first place, the small subdivision of the land amongst farmers (who as a rule own the land they cultivate) enables them to apply to it, regardless of immediate cost, the mode of fertilization and culture that in the end will secure to them the maximum of annual profit without the fear of losing either the fruits of their labor or any money expended upon the soil or other improvements by ejectment or the expiration of their leases. In

the next place, these small holdings enable, if they do not compel, the owners not only to intensify their fertilization, but to cultivate such a variety of crops as will secure from the land its highest possible annual yield in money value.

Before wheat or other grain is sown the land is prepared with great care, the best of seed is selected, and great pains taken to free it from all impurities whatever, and when the young grain is well up all weeds are carefully exterminated, hence it is that a field of ripening grain in Flanders, when seen from the roadside, appears undisfigured by admixture of any other form of vegetation and as though each stalk was the counterpart of every other in exact height and every other detail. And so it is with every other crop grown on this land; the best of seeds and roots are selected for planting and a subsequent labor bestowed on their cultivation scarcely equaled in any country. In addition to this and the annual fertilization already referred to, once in about every five years the entire cultivable soil is turned over to a depth of at least 18 inches, so as to bring the substratum to the surface which for the four previous years has been untouched by the ordinary instruments of cultivation.

The farmers of these provinces by these means not only secure the large crops of cereals and vegetables already indicated, but by a judicious variety of crops they are enabled to support upon their farms more domestic animals per acre than perhaps any other country in the world. It has been estimated that upon every 100 hectares of this land there are annually raised, in addition to the cultivated crops, an average of nine horses, five mules, sixty-two head of horned cattle, fourteen goats, fifteen sheep, and thirty-two hogs, all of which animals are fed and otherwise provided for with the most assiduous care. As before stated, the horned cattle are usually stall-fed during the entire year. In summer they are fed with clover, green rye, beet leaves, and other vegetable matter cut from the fields under cultivation, and in the winter with cured clover, turnips, and carrots usually grown as a second crop after the first of the cereals has been taken from the land. These roots are never fed in the raw state, but are boiled with bran, oil cake, beet pulp or other nutritious matter, and when fed to milk cows are found to be better adapted to the production of rich milk and good butter than any other form of nutriment.

AGRICULTURAL IMPLEMENTS IN USE.

In consequence of the vast majority of exceedingly small farms in this country advanced agricultural machinery and implements are used but to a limited extent; cultivators, as a rule, preferring to use their old-fashioned and cheap appliances, aided by their strong muscles, rather than invest in expensive machinery. Our convenient, strong, and light farm wagons have never yet found a sale here, nor have our improved plows, harrows, and cultivators; and as to our reapers, mowers, and thrashers, with but the rarest exceptions, the farms are entirely too small to make them either desirable or profitable. For our shovels, hoes, picks, axes, forks, rakes, and other small implements there is a moderately growing demand, which would doubtlessly be greatly increased if our manufacturers could place them in the market here at a cost approximating to the price paid for similar articles of domestic manufacture; for whilst the superiority of our manufacture of these articles is generally admitted, the question of original cost still determines the purchase by many of these small farmers; and even when they are disposed to purchase foreign models and patterns at a

slightly increased cost, the contiguity of England, France, and Germany to this country usually enables the manufacturers of these countries to undersell us; hence, as I have reported to the Department on several previous occasions, notwithstanding the superiority of our wares, our only sure hope of extensive sales here, not only of agricultural implements, but of all our other manufactures, is a price that will rule out competition, for in this country at least price is generally appreciated before nice shades of quality.

As a rule all foreign articles, excepting staple goods, are introduced and sold here by branch houses or resident agents; and for the successful sale of our manufactures I have long been convinced that this is the only plan.

BUSINESS HABITS OF AGRICULTURISTS.

The business habits of both the agriculturists and inhabitants of the towns and cities of the kingdom have no peculiar characteristics excepting that of strict economy, extreme caution, and a degree of incredulity in every project or commercial enterprise all the depths and shoals of which they cannot clearly see; hence in all the chief cities of the Kingdom a very large portion of the business men are commission-merchants, selling the products and merchandise of foreign parties, with the least possible risk to themselves, rather than purchasing and dealing in them on their own responsibility, and, as a rule, before receiving any class of merchandise on commission they must be satisfied that there is a market for it, as the idea of creating a market does not comport with their business conservatism; consequently, for the successful introduction of any of our meritorious yet comparatively unknown manufactures nothing will serve us but special resident agents devoted to that purpose.

HOW PURCHASES ARE EFFECTED.

When purchases are actually made by known and reliable houses they are usually done on a time credit of six months, with a variable discount, according to circumstances, from current prices for cash.

HOW AGRICULTURAL IMPLEMENTS ARE IMPORTED.

All agricultural implements and other merchandise imported into this country from Central Europe are shipped by rail, but from Russia, Northern Germany, Spain, Italy, and England they are usually transported direct by steamer; but so far as agricultural machines and implements are concerned, notwithstanding long and persistent efforts made by England, France, and Germany to introduce their improvements into this country, for the reasons I have already assigned they have met with but an indifferent success.

TARIFF DUTIES ON AGRICULTURAL IMPLEMENTS.

Without any discrimination against the United States the entry duty for all machines and implements of agriculture is ten per cent. ad valorem, and the other charges both for handling and storage moderate.

AGENTS FOR AMERICAN MACHINERY.

There are two houses in this city engaged in the importation and sale of American manufactures, viz, Mr. George W. Sillcox, Chaussée de

Charleroi, No. 14, and the "Agence manufacturière Américaine," rue des Croisades, 35. Mr. Sillcox has an extensive agency, embracing, in its field of operation, a large portion of this continent, whilst the last-named firm confines its operations chiefly to Holland and this country. This firm has had quite a success in the sale of some of our wooden manufactures, and especially in that of school desks, of which during the last year they have sold quite a large number.

THE FIELD FOR AMERICAN IMPLEMENTS.

Finally, I would remark that, for the sale of a vast number of our small and ingenious manufactures, the peculiar merits of which are easy of demonstration, there is in this country a promising field, provided always that the cost does not too far exceed that of domestic manufacture; but if our manufacturers and exporters, either from an unwillingness to accept small profits or from an inability to produce at competing prices, fail to do this, no amount of other inducements will secure a large trade here, for in no other country in the world has what might be denominated commercial conservatism a stronger hold upon the purses of all classes of the people than in Belgium.

JNO. WILSON,
Consul.

UNITED STATES CONSULATE,
Brussels, April 19, 1884.

LIEGE AND VERVIERS.

REPORT BY VICE-CONSUL MUELLER.

This is one of the oldest, and in importance ranks third among the manufacturing iron districts not only on the continent of Europe, but in the world entire, and its exports to countries less favored in this respect have ever been noteworthy.

That under like circumstances its imports of agricultural machinery should be limited results as a necessary consequence, the more so as the farming population, resembling that of other European countries, up to a comparatively recent date tenaciously clung to the somewhat primitive farming tools handed down from father to son.

IMITATION AMERICAN MACHINERY.

It is only within the past few years that improved agricultural implements and machinery forced their way in Belgium, thanks to the fairs and expositions exceptionally and periodically held in different parts of the land.

I attended several of these expositions during the past summer and fall, and it ever is a painful feeling to see the great majority of objects exposed bear the undeniable imprint of American inventive genius, but very rarely the American factory or trade-mark. The only articles of undoubted American origin I noticed on said occasions were hay and pitch forks, circular saws, and scales; the rest imitations.

That the imitator of American inventions finds his account is quite evident, otherwise he would soon cease his efforts. As a rule he carries off the prizes on exhibitions, at the same time achieving profitable sales. This practice prevails as a notorious fact all over Europe, to which truth I can attest as an eye-witness.

HOW TO INTRODUCE AMERICAN MACHINERY.

To counteract this pirating spirit, under the inflicted wrongs of which the American inventor or manufacturer smarts, one of the most effective means might consist in establishing American sample-rooms in connection with suitable American consulates in such countries where the authorities do not object to the measure.

Simple advertising, whether in pamphlet form or through the newspapers, is to little practical purpose. The European farmer is not a reading man. In order to be convinced he must see, compare, touch, and handle. Sample-rooms would offer him that opportunity, while, moreover, they would enable the consular officer to exhibit at fairs and expositions, and thus to secure to the American inventor the premiums and prizes that now go to the European imitator. The solidity and the superior finish of American agricultural implements and machinery at large are too glaring to be contested. Only as regards prices the imitator can hope to compete with any show of success.

Led by this idea, I some time ago urged Consul Tanner to apply to the Department for permission to open a sample room here. Liege forms the center of a densely populated and prosperous part of the Kingdom; is situated on one of the great European trunk railroad lines; is approachable by canal and river, and near the borders of Holland and Germany, in the latter of which two countries the establishment of American sample-rooms might not be regarded with a friendly eye. Not so in Belgium. Consul Tanner has been granted the permission asked for, but as yet has not availed himself of the privilege.

No appropriations existing for the establishment of sample rooms, the expenditures in conjunction therewith (room rent, fitting up, advertising, &c.) necessarily devolve upon the consular officer. Yet there are perhaps few of these officials who would not willingly submit to a sacrifice when the interests of their country are at stake, provided they be in a position to make sacrifices. In my travels I have encountered consular officers prominent for their apparent downright Diogenic contempt for things of the material world.

It is not to be denied that the Belgian farmer, yielding to traditional influence, still adheres to strength and durability in his implements, but he surely cannot be accused of associating in his mind heaviness and a certain amount of crudeness therewith. On the contrary, his domestic arrangements and his mode of dress sufficiently prove his susceptibility of neatness of finish and general stylish make-up, *i. e.*, of elegance. With the exception of the Parisians, a more tastily-shod people than the Belgians, for instance, cannot be found in Europe.

If American manufacturers, without losing sight of the characteristic American finish, can in time succeed in turning out agricultural implements and machinery at prices not ranging too far above those of imitations, they will easily crowd the latter off the market. I have arrived at this conviction after many years of close observation:

A well-organized and properly-conducted sample-room at this point can contribute much toward paving the way for American products throughout a great portion of Northwestern Europe. The strides of American inventive genius are so rapid that the European imitator finds difficulty in keeping pace.

CHARLES MUELLER,
Vice-Consul.

UNITED STATES CONSULATE,
Liege and Verviers, May 10, 1884.

HOLLAND.

REPORT BY CONSUL ECKSTEIN, OF AMSTERDAM.

In accordance with the requirements of the Department circular of the 20th of February last, relating to agricultural machinery, I have the honor herewith to report on the subject, and as concerning the Netherlands, as follows, viz:

DIVISION OF THE SOIL INTO FARMS.

The following statement shows the division of the soil of the Netherlands into farms, and the number of owners and tenants by whom it is held or cultivated:

Number of acres.	Number of owners.	Number of tenants.
2½ to 12½	39,560	25,310
12½ to 25	19,447	11,069
25 to 37½	9,857	5,863
37½ to 50	6,458	4,184
50 to 75	6,332	4,755
75 to 100	3,104	3,074
100 to 125	1,610	1,666
125 to 150	832	968
150 to 187½	464	454
187½ to 250	185	232
250 to 375	101	87
375 and over	51	31

NATURE OF SOIL, MODE OF CULTIVATION, AND PRODUCTIVENESS.

Province of Groningen.—Has clay land, sandy soil, and moor. On clay grounds, wheat and red and white clover are cultivated; on the sandy ground, rye and buckwheat; and on the digged moor grounds principally potatoes, used in the factories here for making potato flour.

Friesland.—The soil consists of clay and moor. Cattle-breeding is the paramount interest on both clay and moor grounds.

In the northern part of the province, flax, potatoes, and corn are grown on clay land.

Drenthe.—Heath and sandy soil for rye and buckwheat; on digged moor grounds, potatoes are raised; in the southern part of the province cattle-breeding on clay grounds.

Overyssel.—Heath; along the rivers, clay and sandy soil. Province grows rye, corn, and buckwheat, and has some cattle-breeding. Has extensive meadow lands in the neighborhood of Zwolle and Kampen, and in the eastern part turf-digging.

Gelderland.—Raises wheat, beet-roots, and tobacco on clay grounds; rye and buckwheat on sandy soil, and in certain parts also tobacco on sandy soil. Much attention paid to growing cherries.

Utrecht.—Much the same as Gelderland.

North Holland.—Clay in the district of Beemster, &c.; cattle-breeding; in polders, drained marshes or low lands, corn-growing; high sand lands (downs) bulb culture; in the neighborhood of towns, grass-lands; and on the island of Texel, sheep-breeding.

South Holland.—Soil principally clay; cultivates wheat and beet roots, &c.; cattle-breeding, horticulture, &c.

MACHINERY, TOOLS, AND IMPLEMENTS EMPLOYED.

The following tabular statement shows the agricultural machinery and implements in use, in each province, in 1882, and in the Netherlands in 1882, 1881, and 1880, viz:

Provinces.	Row drills.	Horse hoes.	Reaping machines.	Mowing machines.	Haymakers.	Horse hay-rakes.	Horse-power threshing machines.	Hand-power threshing machines.
Groningen	686	1,466	10	47	52	264	1,067	51
Friesland	110	114	6	94	95	100	289	34
Drenthe	12	3	1	3	.....	3	55	102
Overyssel	16	27	5	58	43	198	151	19
Gelderland	85	197	18	126	41	127	1,024	77
Utrecht	25	37	1	65	68	421	143	110
North Holland	304	139	125	442	852	1,247	592	193
South Holland	181	61	20	240	348	789	219	34
Zeeland	363	96	30	40	20	31	295	83
North Brabant	83	26	15	27	6	7	415	52
Limburg	61	145	43	11	3	19	654	127
Netherlands:								
1882	1,926	2,321	274	1,153	1,528	3,206	4,904	882
1881	1,720	1,979	253	1,089	1,526	2,888	4,787	675
1880	1,338	1,533	183	845	1,102	2,087	3,448	?

NOTE.—To the above statement must be added, as existing and in use in the country in 1882, 94 steam-thrashing machines, of 525 horse-power; 41 sundry implements, of 305 horse-power; and 3 steam plows, of 40 horse-power.

From the foregoing it will be observed that agricultural tools, implements, and machinery of nearly every description, from the most ordinary of hand tools to the most improved machinery, are in use in this country, and that the employment of machinery is constantly and largely increasing.

FOREIGN TOOLS AND MACHINERY, AND WHENCE IMPORTED.

The large land proprietors in this country, and especially those in the most fertile provinces of North and South Holland, and as well in a portion of Zeeland, Utrecht, Friesland, and Groningen, have long since discovered and recognized the advantages in the use of machinery over the employment of manual labor, and have adopted and employ the former to a considerable extent.

As represented to me the bulk of the various appliances required and used in this country for agricultural purposes are of foreign manufacture, and imported.

At the present day England supplies the greater part of them, and now has a strong hold on the market.

The United States share in the trade to a limited extent. Hay and manure forks of American manufacture are largely imported, and so are shovels, spades, rakes, and tool handles, in greater or smaller quantities.

The eastern provinces are largely supplied by Germany, and the southern provinces by Germany, Belgium, and England. Germany and Belgium furnish only the more common sorts of hand-tools, and England the more important and more costly articles of steam and horse power machinery and implements.

It is naturally to be supposed that the articles most in demand and finding the readiest sale are those which give the greatest satisfaction.

HOW AMERICAN MACHINES COMPARE WITH OTHERS.

In style and finish they are generally conceded to be superior to those elsewhere manufactured, but the idea has taken root that they are usually too light and weak for the heavy, cloggy soil of this country, and on this account and for this reason the heavier, clumsier, but supposed to be stronger, English machines are preferred.

HOW MANUFACTURES ARE INTRODUCED.

Most generally by traveling agents and by partners of the manufacturing firms, who introduce them in this country by selling them to some of the leading houses in the trade, with whom they establish business relations, and appoint, as a rule, as their sole agents for Holland for the sale of their goods.

THE BEST MANNER OF INTRODUCTION.

American manufacturers of agricultural machinery and implements who really intend to compete for a share of the trade in permanently supplying the wants of this country can do no better than by personal visits to those engaged in the business here, and by examining and investigating on the spot into all matters and things appertaining to the subject.

At any rate I do not flatter myself that any report of mine will induce the Dutch farmer to give up his predilections, or prevail on any American manufacturer in turning out machinery especially calculated to suit the agriculturists of this country or to meet their actual or "fancied" wants.

I hold that, if it is desired to accomplish any practical and substantial results, those of our countrymen who would be benefited by them ought to be prepared to risk the trouble and expense it would involve in coming here, for the purpose of becoming personally acquainted with and studying the peculiarities and general characteristics of the farmer, his workmen, the soil and the machinery, implements and tools now in use, as well as all other matters bearing upon the subject.

BUSINESS HABITS OF THE FARMERS, ETC.

There is nothing reported to me which would seem anyways really peculiar as relating to the business habits, customs, and systems among agriculturists in this country.

The farmers when in need of any article repair to the towns or market places in their neighborhoods for making their purchases.

They always prefer to go to the merchant, store, or warehouse where the best assortment is kept, so they may select and try what suits them best.

The town or country merchant expects to be, in fact must be, served in proper time and season, and in the most perfect manner, by the importing houses, and must at all times have recourse to them for any shortcomings or deficiencies in the make or quality of the articles.

THE SYSTEM OF PURCHASES.

The importers or first hands are represented to me to pay cash on delivery of goods, at either Amsterdam or Rotterdam, whereas town and

country merchants usually buy on a credit of from three to six months, and longer if possible.

THE HANDLING OF THE GOODS AFTER LANDING.

I can only say that after landing they are conveyed to the importer's or agent's store or warehouse, where they remain in proper condition until being sold from time to time in small lots to the inland or retail merchants, who likewise keep them in store until they are in turn sold to and reach the hands of the agriculturists.

HOW MACHINES ARE IMPORTED, ETC.

England is said to be at present by far the greatest supplier of this market as regards agricultural machinery, tools, and implements, and this is to a certain extent owing to the fact of its possessing regular lines of steamers from many of its principal ports, such as London, Hull, Harwich, Grimsby, Newcastle, &c., to Rotterdam and other ports in Holland.

There are a great number of steamers weekly arriving from and returning to English ports, thereby creating a very keen competition and reducing freight to a minimum.

Besides, as I am informed, railway rates in England are also extremely low, and railway companies in some instances have combined with steamship companies to bring about still more economical conditions and meet the existing competition by offering to the trade the cheapest possible "through rates" from the centers of production in England direct to Rotterdam and other ports in this country.

These and certain other favorable conditions constitute advantages in bringing here heavy and bulky freight, such as machinery, &c., which it would be difficult to find any set of men to utilize to a greater extent than the British manufacturer.

WHAT THE FARMERS LIKE.

Some years ago when English manufactures for agricultural purposes were quite devoid of any elegance, stylish make-up, or nice finish, the first appearance of American machines, which excelled, and still do in those particulars, the product of any country, was looked upon like a new revelation in this country.

Their novelty, combined with the fair, if not low, prices at which they were purchasable, gained them immense favor, and machines and implements of various descriptions were soon sold and in use throughout Holland.

However, after a certain time the demand for them slackened, and finally became almost entirely extinct.

How or why this came about has never been clearly or satisfactorily explained to me.

One of the principal firms in the country engaged in the trade in question writes to me on this point about verbatim as follows, viz:

> Farmers and their workmen always accustomed to work with the heavier English tools soon found out that, although they did not possess the elegance, style, and finish of the American product, they were more appropriate for the heavy work they had to perform in this country, and they consequently came back to the original English makers. In the mean time the English manufacturers, mindful of the American competition they had experienced, produced and brought out improved patterns, uniting American elegance with English strength, and without increasing thereby their selling prices, so that they soon became again masters of the situation, and have ever since held their ground.

It is immaterial in how far the above remarks are correct or otherwise, for the fact remains that, even assuming they are perfectly true, the strong footing which our manufacturers had at one time gained in this country could have been maintained if they had exerted any earnest efforts to prove that they were determined to hold their own in its markets.

In this connection it seems appropriate that I should refer to the forthcoming International Agricultural Exhibition at Amsterdam.

Regarding it I gave as timely notice as it was possible to do, and forwarded, not only to the State Department, but to the Department of Agriculture, and to editors of periodicals and newspapers in different parts of the United States, programs, regulations, and forms for applications for space, &c., but up to the present no intimation whatever has reached me which would show that American manufacturers, farmers, or exporters of farm products would participate in the exhibition. That so doing could only prove beneficial seems to me to be certain, but that it will be done to any considerable extent, most doubtful.

Judging from the ever-flowing stream of circulars calling for information on almost every conceivable subject, it occurs to me that our manufacturers, producers, exporters, and others have entirely too much faith and place altogether too much confidence in the efficiency of consular reports, whereas, I believe, they fail in the same degree in exerting the required and properly directed collective or individual efforts for the purposes of attaining their objects, as is more generally done by equally interested parties in Europe.

HOW MACHINES SHOULD BE FINISHED.

So far as I can learn, the best way to construct and finish machinery, implements, and tools for agricultural purposes and destined for Holland is to turn them out simple and elegant, always having particular regard to the fact that they must be suitable for use in a country where the soil principally consists of clay, is heavy and cloggy.

It is further desirable that our manufacturers should put labels on their products in their native (English) language, to prove their originality and as a certificate of authenticity, especially when the names of the manufacturers and places of manufacture are added.

Catalogues may be printed in the Dutch language, and the names of any agents in this country should be printed on or mentioned in the catalogues, in order to avoid misunderstandings on the part of agriculturists.

EFFORTS FOR THE INTRODUCTION OF FOREIGN MACHINERY.

There is no history extant giving information on this point. It is said that the English manufacturers had their attention first attracted to this country, came here, studied its requirements, and soon found out the articles most wanted and most salable; in fact, they introduced in great part but the tools used in their own country, and which in most cases proved suitable for this country as well.

For a long time the English manufacturers enjoyed a monopoly. The Germans came into the field later on and tried to compete, but without effecting much, only that more recently, or since they have become such inveterate imitators of American tools, they have gained a certain amount of favor in the eastern provinces.

As represented to me, the preference so generally given to English manufacturers is, in a measure, owing to the fact that they do not supply retail merchants, but only the largest houses in the trade, *i. e.*, the importers in the seaports of Amsterdam and Rotterdam.

IMPORTERS OF AGRICULTURAL MACHINERY.

Among the most prominent and influential firms so engaged are: Messrs. R. S. Stokvis & Sons, Rotterdam; Landré & Glinderman, Amsterdam; Gebr. Figée, Amsterdam; J. Peignat & Co., Amsterdam; Cornelis Koning, jr., Amsterdam; van den Berg & Co., Amsterdam; Boeke & Huidekoper, Groningen.

As to what is the precise nature of the business connections of those firms with the countries of manufacture I am not in position or prepared to state; nor did it appear to me to be prudent or practicable to make the inquiries necessary in order to give full and correct information on that point.

I am of the opinion that under anywise promising circumstances and conditions the firms above named and still others would be prepared at any time to enter into arrangements with American manufacturers for the purpose in view, or would be disposed to entertain any such proposals as would be consistent with and not in conflict with any existing engagements already contracted.

TARIFFS, TAXES, CHARGES, ETC.

There is no import duty on agricultural machinery, implements, or tools in this country, and no other taxes or charges imposed on such articles at the ports, in the towns or country. There is no discrimination whatever, in this respect, in favor of the manufacturers of any country.

In concluding this report I would record the wish that those whose interests it is intended to serve may profit by the information it conveys to an extent equal to the care, time, and labor I devoted to its preparation; in which case I should feel amply compensated.

D. ECKSTEIN,
Consul.

UNITED STATES CONSULATE,
Amsterdam, June 6, 1884.

HOLLAND.

REPORT BY CONSUL WINTER, OF ROTTERDAM.

In compliance with instructions from the Department of State in its circular of February 20, 1884, I have the honor to transmit herewith the following report upon agricultural machinery, implements, and tools in the Netherlands.

The preparation of this report has been delayed by the publication of the latest agricultural report for the Netherlands, which is for 1882, and from which the greatest part of statistical information had to be obtained.

AREA AND FARM DIVISIONS.

According to the above-named report the surface of the Netherlands is divided as follows:

Statement showing the nature of the grounds in the different provinces and for the whole Kingdom in 1882, in hectares.

[1 hectare is equal to 2.471 acres.]

Provinces.	Barren ground.	Water.	Dikes, ways, streets, &c.	Farm-land.	Pasture ground.	Gardens and orchards.	Wood.	Total.
Groningen	37,055	4,227	5,350	123,785	59,487	3,482	1,194	234,580
Friesland	24,640	28,076	5,720	54,258	198,930	3,330	6,894	331,818
Drenthe	145,896	2,228	6,063	35,125	65,286	1,683	8,965	265,246
Overyssel	114,556	13,980	14,101	62,782	109.242	1,479	17,678	333,768
Guelderland	123,391	5,470	22,584	132,065	141,573	10,706	72,166	508,000
Utrecht	12,740	7,259	4,404	29,552	67,012	3,369	14,082	138,318
North Holland	30,861	27,342	10,216	42,755	150,585	2,227	6,081	271,167
South Holland	12,831	19,515	18,466	71,980	160,628	7,469	9,896	300,775
Zealand	11.871	7,882	8,355	104,674	36,960	2,857	2,118	174,717
North Brabant	144,005	11,244	29,972	148,878	114,437	5,374	56,026	509,936
Limburg	48,491	7,380	9,479	91,255	24,948	9,112	28,872	219,517
Kingdom of the Netherlands	716,336	134,603	134,900	896,100	1,129,058	51,968	223,962	3,287,887

Statement showing the number of farm-owners and tenants, according to the number of hectares that they have in use.

FARM-OWNERS.

Provinces.	1 to 5 hectares.	5 to 10 hectares.	10 to 15 hectares.	15 to 20 hectares.	20 to 30 hectares.	30 to 40 hectares.	40 to 50 hectares.	50 to 60 hectares.	60 to 75 hectares.	75 to 100 hectares.	100 to 150 hectares.	More than 150 hectares.
Groningen	2,114	1,054	973	818	977	702	564	314	151	49	24	4
Friesland	1,595	614	567	468	679	493	206	100	63	7	3	.....
Drenthe	1,953	1,301	667	523	506	206	86	55	36	16	14	10
Overyssel	5,262	2,506	1,423	958	587	282	112	38	27	8	4	.....
Guelderland	7,978	2,640	1,324	684	525	263	141	84	49	23	10	12
Utrecht	686	391	330	291	477	153	57	27	11	9	3	1
North Holland	2,415	1,197	888	861	797	308	101	36	22	18	13	11
South Holland	1,322	1,017	785	780	955	372	169	83	27	20	13	6
Zealand	945	399	260	201	255	164	100	54	42	22	11	6
North Brabant	8,879	6,232	1,839	567	342	110	54	30	12	9	6	.....
Limburg	6,410	2,096	801	307	142	50	20	11	4	4	.....	1
The Netherlands	39,560	19,447	9,857	6,458	6,332	3,104	1,610	832	464	185	101	51

TENANTS.

Groningen	596	220	197	119	146	118	104	52	16	9	3	1
Friesland	1,859	699	502	557	1,080	944	423	148	47	32	9	4
Drenthe	1,697	790	376	306	269	168	76	36	16	6	.....	1
Overyssel	2,563	1,284	537	347	297	223	69	17	8	2	.....	.....
Guelderland	5,988	1,533	852	494	371	178	85	73	28	15	6	5
Utrecht	799	374	259	251	445	216	99	51	23	3	.....	.....
North Holland	1,524	935	734	712	505	280	63	55	54	16	14	15
South Holland	1,324	971	715	636	903	470	326	191	92	47	12	1
Zealand	1,050	422	314	210	304	270	286	202	113	73	29	5
North Brabant	3,819	2,383	858	312	200	91	62	92	31	9	6	.....
Limburg	4,111	1,458	519	240	145	116	73	50	31	20	8	1
The Netherlands	25,310	11,069	5,863	4,184	4,755	3,074	1,666	968	454	232	87	31

In the province of South Holland there are 6,554 stock-farmers who own more than five cows; 3,602 of them are farm owners and 2,952 are tenants; 1,907 farmers, with at least four horses, of which 830 are owners and 1,077 are tenants; 1,295 farmers with two or three horses, of which 665 were farm owners and 630 tenants; and 687 farmers with one horse, of which 293 were owners and 394 were tenants.

The price paid for pasture ground and farm land in the province of South Holland varies from $600 to $1,120 per hectare—which is equal to 2.471 acres—according to situation and fertility.

AGRICULTURAL IMPLEMENTS IN USE.

The number of steam engines in use for agricultural purposes in the Netherlands was as follows at the end of the last five years:

Description.	1878.	1879.	1880.	1881.	1882.	Horse-power. 1882.
Steam plows	4	3	3	3	3	40
Steam thrashers	39	92	95	94	94	525
Other steam engines	53	35	37	36	41	305
Total	96	130	135	133	138	860

The greatest part of agricultural machinery and implements now used in the Netherlands is of English manufacture, and finds generally much favor with the Dutch farmers, notwithstanding many of them still adhere to the old style of implements like wooden hay-rakes, flails, &c.

The following statement shows the number of the different agricultural implements in use in the provinces of the Netherlands on December 31, 1882:

Provinces.	Grain and seed drills.	Cultivators.	Reapers.	Mowers.	Hay-shakers.	Hay-rakes.	Thrashers.	Hullers.
Groningen	686	1,466	10	47	52	264	1,067	51
Friesland	110	114	6	94	95	100	289	34
Drenthe	12	3	1	3	.....	3	55	102
Overyssel	16	27	5	58	43	198	151	19
Guelderland	85	197	18	126	41	127	1,024	77
Utrecht	25	87	1	65	68	421	143	110
North Holland	304	139	125	442	852	1,247	592	193
South Holland	181	61	20	240	348	789	219	34
Zeeland	363	96	30	40	20	31	295	83
North Brabant	83	26	15	27	6	7	415	52
Limburg	61	145	43	11	3	19	654	127
The Netherlands	1,926	2,321	274	1,153	1,528	3,206	4,904	882

HOW TO INTRODUCE AMERICAN MACHINERY.

As to the best way of introducing the American implements, I have corresponded with Messrs. L. A. L. Kortman & Co., of this city, one of the largest firms dealing in agricultural implements and tools in this city, who, in reply to my request, gave their opinion about this matter in a letter of which the following is a translation:

In reply to your esteemed favor we take occasion to inform you that the importation of American agricultural machinery in the Netherlands has, till now, been very insignificant.

Agricultural tools of American origin and manufacture, like hay forks, rakes, pitchforks, weeding hooks, and many others, are on the contrary generally in use, and give full satisfaction.

If the American manufacturers of agricultural machinery would like to find a market for their products in this country they would first have to consider the competition of the English manufacturers, who have been supplying this market with agricultural implements for a number of years.

The Dutch farmers have different ideas about the construction of their implements from what the Americans have, and the manufacturers will consequently have to acquaint themselves with the changes that their products will have to undergo in order to give satisfaction in this country.

If the manufacturer succeeds in offering a suitable implement, it is advisable for him to place it for sale in the principal cities of the Netherlands, and to see that a reliable firm, well acquainted with agricultural machinery and implements, takes charge of the introduction of the same.

A first measure for the American manufacturer to take is to appoint a sole agent for the Netherlands, whom he must enable to organize experiments with the implements; he must observe the instructions that the agent gives in regard to changes in construction, and other requirements for this country, and he must also take care that the agent has always a good number of the implemments on hand.

The Dutch farmer is attached to forms, even to insignificant trifles that are wholly indifferent for the operation of the implement; however, any one who desires to trade with them is forced to observe his peculiarities, and the manufacturer who has the idea that all that gives satisfaction in America must also give satisfaction in Holland is greatly mistaken.

Some manufacturers offer their implements delivered on board of ship, or even from their factory. In regard to this, I must say that it happens very seldom that the Dutch farmer orders an implement several months before he needs it, and he will never take into account the freight from America, which is wholly unknown to him. It is for these reasons that agricultural machinery and implements must be obtainable here, and the prices calculated below Rotterdam or Amsterdam.

For the introduction of any new article, the manufacturer must have an agent who pushes the article, and such an agent will not be found unless he is assured that he will also gather some fruits for his efforts, if he succeeds in finding a market for such article in this country, by being appointed as sole agent for a certain number of years.

FREE OF DUTY.

There are no import duties imposed in the Netherlands on agricultural machinery, implements, or tools.

JNO. F. WINTER,
Consul.

UNITED STATES CONSULATE,
Rotterdam, August 8, 1884.

THE UNITED KINGDOM.

ENGLAND.

BRISTOL DISTRICT.

REPORT BY CONSUL LATHROP

AREA OF DISTRICT.

Bristol may be considered as a distributing center for 6,000,000 acres, of which the table annexed shows that 4,526,527 are cultivated. This district has many small farms, and is cut up by hedges, ditches, fences, and natural boundaries into smaller divisions than is usual in America; hence the larger and more expensive agricultural implements cannot be so largely employed, though they are extensively used when the conditions are favorable. There is a tendency to double up farms and to make larger fields, thus increasing the opportunities for profitable use of large implements. A farmer renting a good-sized farm is usually found supplied with every requisite, though times have been hard for him for some years past and his purchasing power is thus decreased.

AGRICULTURAL IMPLEMENTS IN USE.

The implements used are nearly all of English manufacture, and though, as a rule, made heavier than is common in the United States, they are most creditable in strength, ingenuity, and excellence of finish. There are numerous small shops throughout the country where the simpler articles are made, while the more elaborate (and the simple also) are made at large manufacturing centers, whose out-turn in most cases finds a market not only at home, but in many other parts of the world. The large manufacturers sell to farmers direct as well as to middlemen and dealers, but give the latter a larger discount than the former. The usual terms to a farmer from a middleman are about 5 per cent. discount from published prices, with an additional 1 per cent. off for cash. Accepted bills are usually taken, open accounts being rare.

PRICES OF ENGLISH MANUFACTURES.

Some prices of implements may be useful and interesting for purposes of comparison. I quote from the catalogue of Messrs. R. Hornsby & Sons, limited, of Grantham, whose make is found all over this country:

Patent Paragon mower, 2-horse, 4 feet 3-inch cut, fingers 3 inches apart, with 2 knives	$80
Combined mower and reaper	95

Another combined mower and reaper	$100
Self-raking reaper	146
One-horse Challenge reaper	75
String sheaf-binding harvester	292

This firm manufactures implements of like nature in large variety and at varying prices. The figures I have given are average prices of the best machines.

Ruston, Proctor & Co., of Lincoln, and Clayton & Shuttleworth, of the same place, charge as follows:

Patent traction engines	$1,703 to $2,825
Steam-burning portable engines, according to horse-power and number of cylinders	850 to 2,482
Patent threshing-machines	510 to 705
Straw elevators	219 to 257
Combined stacking-machines	267

Messrs. Woods & Long, of Stowmarket, large manufacturers, advertise as follows:

Grain-grinding mills	$155 00 to $375 00
Portable grist mills	121 00 to 150 00
Hand crushing and grinding mill	29 00 to 40 00
Horse-power threshers, including horse-gear	175 00 to 452 00
Chaff-cutters	15 00 to 25 00
Oil-cake breakers	35
Turnip-cutters	21 60 to 26 00
Land rollers, diameter 12 to 30 inches, 6½ to 7½ feet wide	34 00 to 102 00
Horse harrows	12 00 to 20 00
Horse rakes	50 00 to 69 00

The Bristol Wagon Works, of Bristol, make equipages in endless variety, charging as follows:

Strong general-purpose two-horse cart (shafts)	$87 to $115
Harvest-cart, to hold 30 hundredweight	87 to 92
Agricultural light cart	77 to 83
Four-wheeled wagons	165 to 265

PRIZE MACHINERY.

An important part of the Royal Agricultural Society's annual meeting is the exhibit of new implements, which are awarded prizes if useful, novel, and successful in operation. Almost all newly devised implements come before this society, and each year's exhibit may be considered to represent the highest development of agricultural machinery up to date. I therefore present some account of a few of the most characteristic and interesting of the 6,058 articles exhibited at the meeting of 1883.

A special prize was offered on this occasion for a portable straw compressing and binding machine, to be worked in conjunction with a threshing-machine. There were two entries, but neither was entirely satisfactory. There is a chance here for the proverbial American ingenuity, as such a machine seems to be needed in England. An ingenious straw-trussing machine was, however, shown, to be used in connection with a thrasher. From the drawing given (Fig. 1) it will be seen that—

The machine is attached to the tail of a portable thrashing-machine: also, that the straw, as delivered from the end of the shakers, falls between two revolving aprons which carry it forwards and downwards much in the same way as the cut corn is carried up to the binding table of an American self-binder. The thrashed straw, on

leaving the shakers, passes between the aprons or conductors to the collectors, which receive and compress it against weighted levers, and when enough straw is collected to balance and move the levers a pair of binding arms from below the collected straw rise up, inclose, and bind it with two bands whilst the truss is under compression.

The price of this machine is $220.

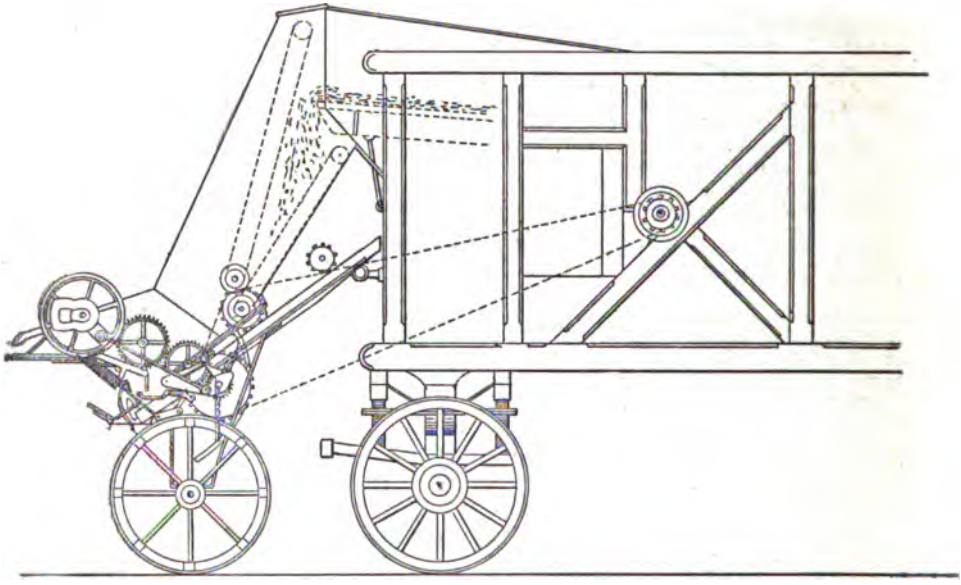


FIG. 1.—Howard's straw-trussing machine.

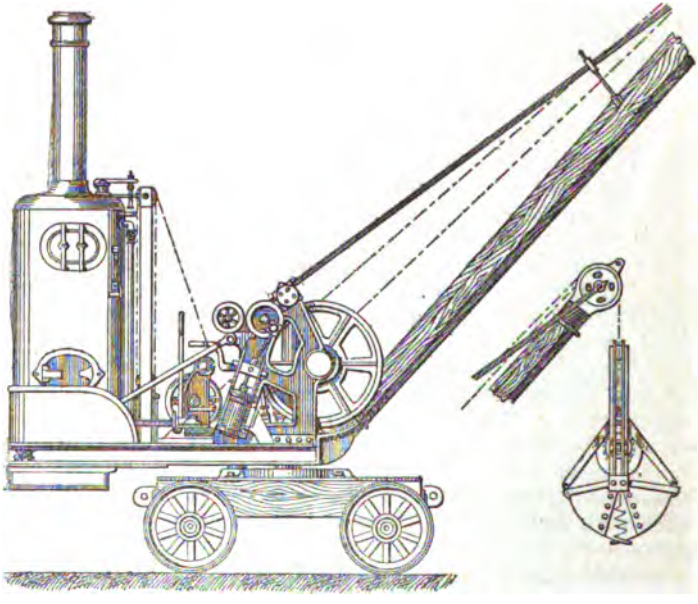


FIG. 2.—Side view of Priestman's dredger.

A steam-dredger (Figs. 2 and 3) was shown, adapted to agricultural work. This machine has been in practical operation within the limits

of this consular district, and most successfully accomplished its work. It works either from the bank or from a barge, and not only removes the mud, but piles it on the bank, thus cleaning the river-bed and raising the banks simultaneously. On a large estate it has proved economical despite its price ($1,435), as it saved many hands in digging and cleaning drains, dikes, and small streams.

A complete novelty was a straw yealming or straightening machine,

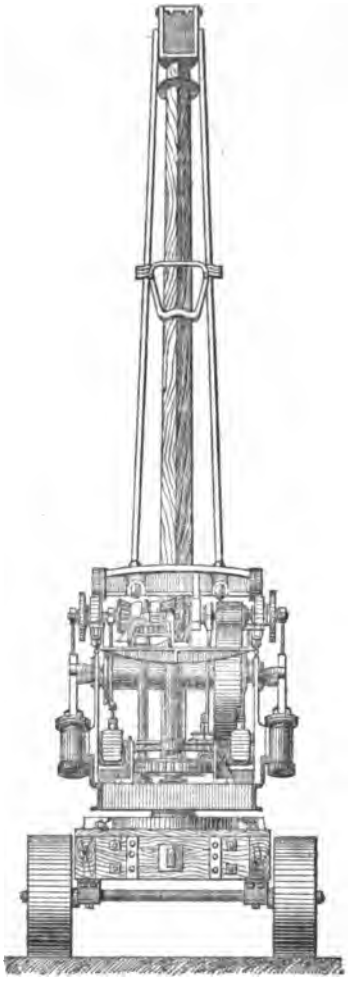


FIG. 3.—End view of Priestman's dredger.

to be used as an assistant mechanical feeder to a large power chaff-cutter. It saves three men, and costs $105.

Fig. 4 shows it attached to a chaff engine. It will be seen that one feeder is able to take the straw as delivered by the yealmer and place it in the box. It has a chain working over chain drums, and carrying a number of tines or spikes. Three such chain gear compose the elevator apron and carry up any straw that is thrown on them. As the straw reaches the upper end of the elevator it is acted upon by two

combs, which, by means of cranks, have a backward and forward motion at right angles to the travel of the straw. These combs, without arresting the motion of the straw, straighten it most successfully.

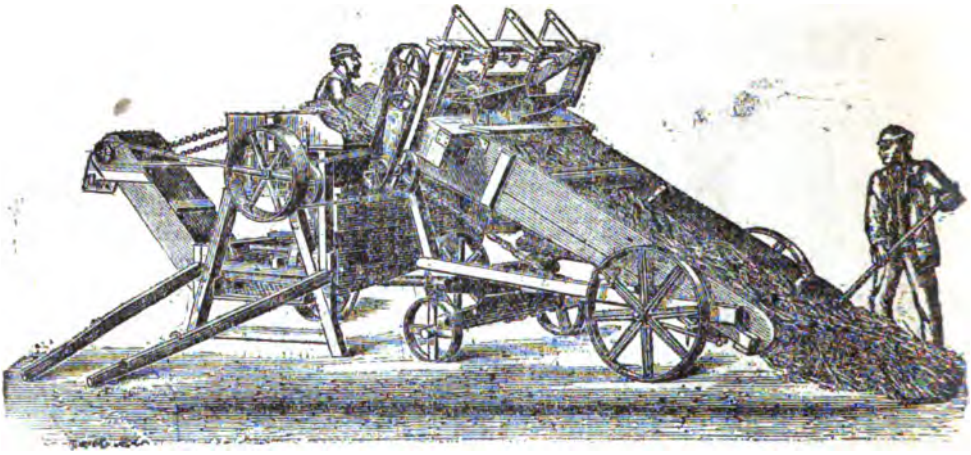


FIG. 4.—View of Maynard's straw yealming machine.

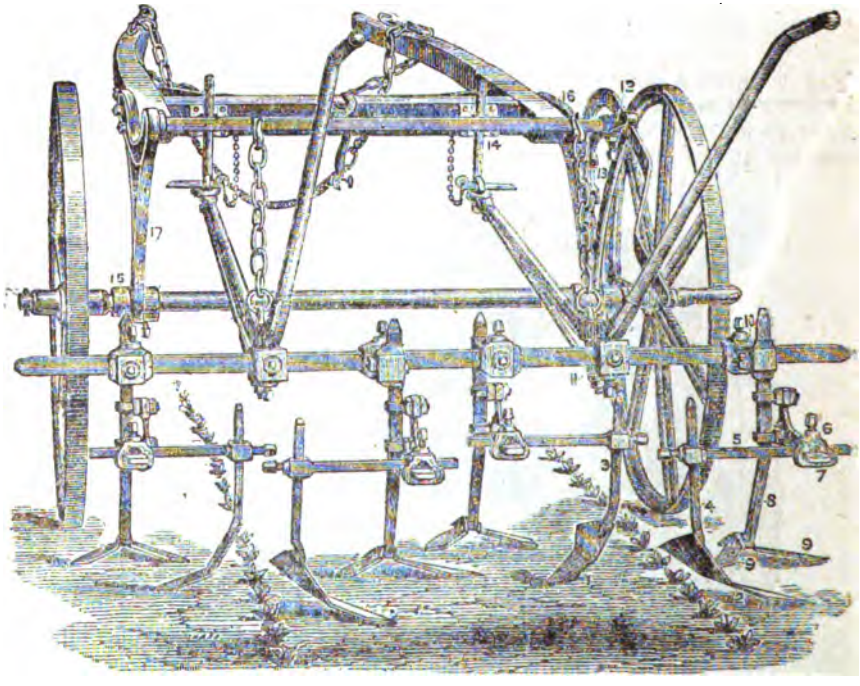


FIG. 5.—Back view of hoe.

A horse hoe (Fig. 5), designed to work between the drills of root crops at the very earliest period of growth, was exhibited. Owing to

the peculiar form of the side hoes the soil is drawn away from the drills instead of, as usual, covering the plants. The side hoes can be removed or altered in pitch so as to work on ridges. The price of this hoe is $65.

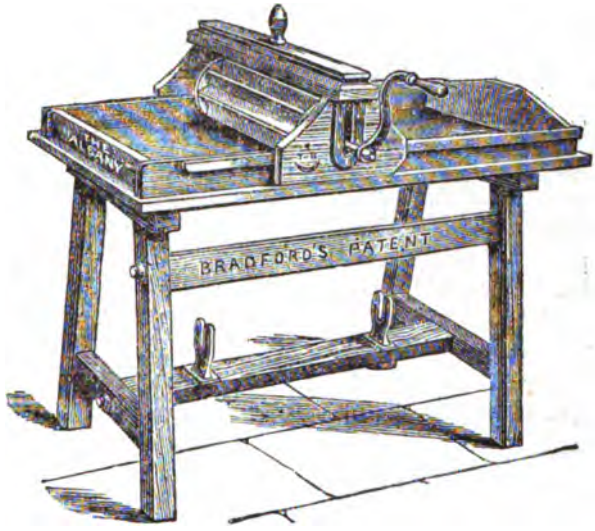


FIG. 6.—"Albany" butter-worker.

Fig. 6 shows a butter-worker. It consists of a fluted sycamore roller operating in a rectangular tray carried on a strong frame. American maple forms the frame and tray, and is also used in many dairy implements in England, being close-grained and non-absorbent. Both

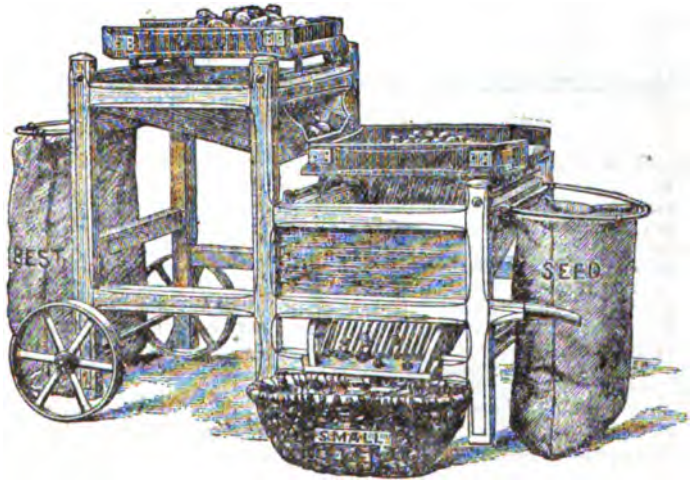


FIG. 7.—View of Lightfoot's improved potato-riddler.

hands are used in working the butter. The left moves the roller backwards and forwards, while the right revolves it by means of the crank handle. I think it likely that this may be an American invention, but

I have no means of ascertaining. If it is, the patentee has certainly gone the right way to work in exhibiting at this important exhibition. Its price is $24.

Fig. 7 shows a hand-working potato-separator, which needs no explanation. It is claimed that 30 hundredweight per hour can be screened if free from disease, but if there are a moderate number of bad potatoes to be picked out by hand, about 25 hundredweight can be separated.

A grain drier and purifier was exhibited, and though commented on by the judges as imperfect in construction, was yet considered by them as a most valuable and useful machine; rather for merchants, however, than for farmers, and in cases where imported grain (as sometimes happens) has been under water.

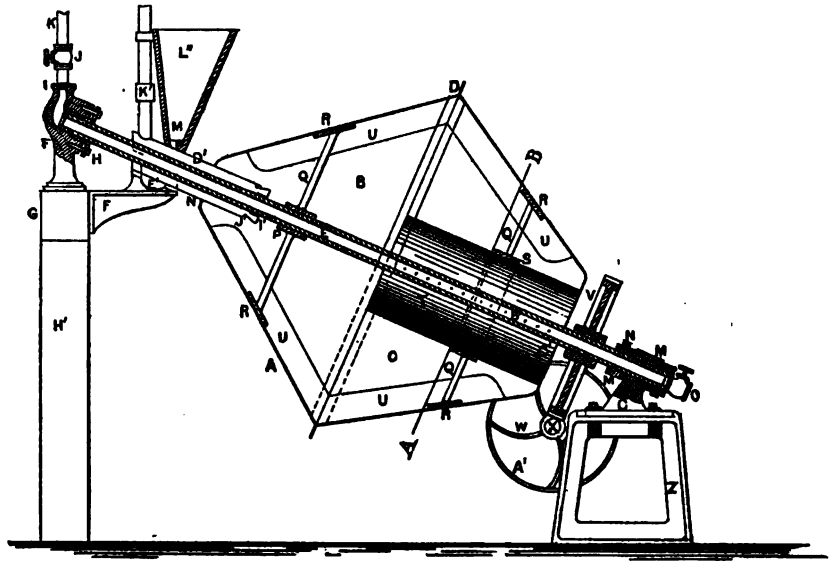


FIG. 8.—Keighley's grain dryer and purifier.

The apparatus (Fig. 8) consists of a double-conical cylinder (pentagonal), B and C. The two portions are joined together by means of angle-irons, D, riveted on the parts B and C and bolted together. Through the center of this cylinder is a hollow shaft on which the cylinder revolves. The hollow shaft supplies steam or water to numerous serpentile coils of pipes covered by plates, these being also fixed upon the shaft and inside the conical cylinder, which contains the grain, and which, when turned on its axis, gives such complex motion to its loose contents that the grain gets rubbed at the same time that it is being dried. The vessel holds about 4½ quarters, and the drying is effected partly by the heat developed by the hollow shaft and the serpentine coils of pipes and partly by a blast of hot air which is blown in through a stuffing-box, fixed at the foundation of the cylinder, direct upon the grain by a small fan. In the drawing, T represents a steam drying cylinder, into which steam is admitted by holes in the hollow shaft, an alternative arrangement with the serpentine coils of pipe. Inside the conical cylinder are fitted plates, U, for the purpose of lifting and turning the grain. On the shaft E is secured a worm-wheel, V, actuated by a worm, W, fitted on a shaft, X, which works in bearings, Y, cast on the side of the frame Z, on which frame is secured the bearing G, which carries the lower half end of the hollow shaft. The hollow shaft is connected with the steam-pipe by a flexible expansion joint, H. The cylinder is provided with an arrangement of sieves, which can also be used as doors for filling or discharging contents.

The price of this invention is $245.

A thrashing-machine was on exhibition which was novel in the employment of an exhaust fan so arranged as to carry out the work usu-

ally performed by the first and second winnowers, and which also acts as a chaff lifter and chaff cleaner. This machine, known as Foden's, was exhaustively tested by the judges and gave most satisfactory results.

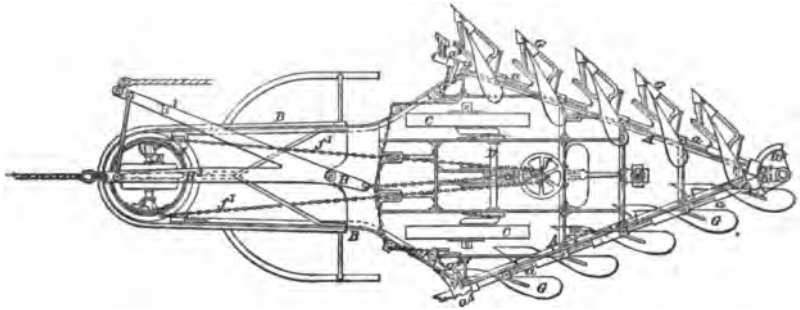


FIG. 9.—Plan of plow.

A steam plow that was tried on this occasion is worthy of notice, for though it has been patented for some time and is not strictly a novelty, it is said to be, by competent authority, the most practicable in use. "The letters AA BB, in Fig. 9, show the back and front portions of

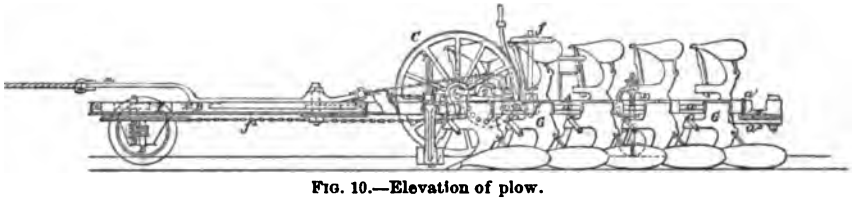


FIG. 10.—Elevation of plow.

the frame, carried on a pair of traveling wheels, CC, with broad tires. E is the front steering wheel, mounted on the turning frame F, worked by a chain, *f*, from the hand steering wheel *f*. *a a* are the rotating shafts, carrying the ploughs G, and at their ends the bevel pinions a^1 gearing

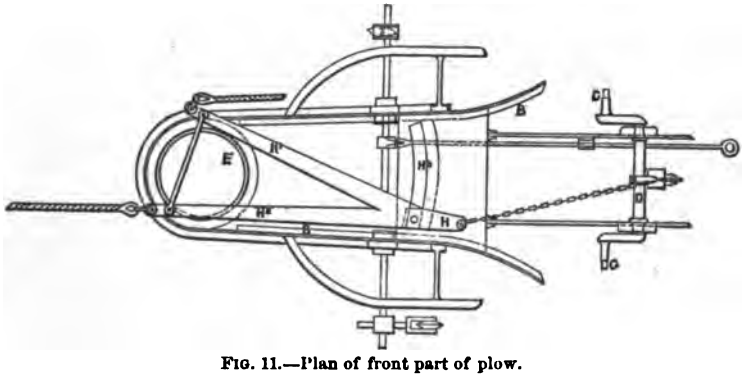


FIG. 11.—Plan of front part of plow.

into the bevel wheel a^2, and on the front end of the said shafts disks a^3 which a pawl, a^4, engages. The depth of the furrow can be varied from 4 to 10 inches by raising or lowering the frame. The level position of the plow is secured by making the front portion of the frame adjustable

in height on the bearings of the steering wheel. The frame is made to receive cultivating tines, so that the implement may be used either for plowing or cultivating." The plow is intended to travel 6 miles per hour. Its price is $730, which is expected to be reduced in the future.

HOW TO INTRODUCE AMERICAN MANUFACTURES.

There is not, of course, a general market in Great Britain for agricultural implements. To suppose, however, that there is no room for our manufactures is a mistake. There are products of our ingenuity superior to any made in this country, and which are needed here, and which are gradually finding a market. Such are certain of the new kind of wind-mills, and, in smaller articles, some dairy necessities, lawn mowers, and some hand tools. To suppose, however, that because these things are needed they find an immediate and profitable market is wrong. The English farmer must be well convinced of the utility of a novelty before he can be induced to buy it; and instead of keeping a lookout for appliances that cheapen and economize his labor, his attitude is one of determined hostility to everything new. Besides, his bad fortune for nine years past must be considered. Such an uninterrupted succession of unprofitable seasons has left him with neither the means nor the disposition to buy largely.

In hand tools, such as small axes, hatchets, picks, shovels, axes, hammers, &c., something has already been done, but we do not sell nearly as much as we ought of these things, when we remember our advantages in the way of suitability and variety of woods for handles, in our large use of machinery in manufacturing, and in our taste in finishing. But the merits of many of these small articles are really defects in the eyes of a considerable portion of the British public. We should avoid any appearance of lightness, and let our work stand out with none of its corners smoothed or edges turned a little. A hatchet with uncompromising angles and a heavy handle will bear an appearance of twice the strength of the same thing neatly finished, and will commend itself as likely to last twice as long. Therefore such an implement would probably sell twice as well as a similar one better finished at the same price. The same rule holds good to a certain extent with larger articles. A large class of the English people object to the elaborate decoration on the Pullman cars in use in England on the ground that a car is not a place for such things; for the same reason they object to the attractive ornamentation of our farm wagons. Another and a larger class object on the ground that expense is added without adequate return. To meet these objections the American wagon maker who seeks this market for his vehicles should paint the body the bluest possible blue and the gear and wheels the reddest possible red; and furthermore he should never send over a wagon the front wheels of which will not go under the body. A careful comparison of catalogues leads me to believe that the American manufacturer can undersell the English maker in his home market; but I say it with a reservation, as no intelligent comparison as to quality can be made without seeing the wagons themselves.

If an American manufacturer has some specialties which he desires to put on the English market, he should be represented in this country by an American, and by all means by a partner, if practicable, who will probably find it to his advantage to do everything through London. He should exhibit his machines at the two great shows—the Royal Agricultural Society's, and that of the Bath and West of England Society. They hold their meetings in May and July of each year, and go each year to a different town. It will depend on the nature of the im-

plements as to whether it will pay to exhibit farther, but as a general rule the more important local shows are most efficient advertising mediums. One or more commercial travelers should be employed, and these should be Englishmen who "have a connection." Their cost would be about $1,000 a year each and $5 a day expenses. It will be observed that these suggestions mean considerable expense; too much, one might think, for an experiment, the issue of which may be doubtful. But I do not believe success possible in any other way. No half-hearted trial will succeed; no occasional sending of circulars or samples to an English commission agent will build up a trade in these lines. It must be a siege, not an assault; and it must be conducted with forethought, resolution, and patience. It is not to be expected, therefore, that manufacturers will seek this market until others more promising have been cultivated, and we may reasonably look forward to seeing an export trade in agricultural machinery established on a large basis in many other parts of the world before attention is paid to Great Britain.

LORIN A. LATHROP,
Consul.

UNITED STATES CONSULATE,
Bristol, July, 1884.

CROP ACREAGE.

Table showing total area and acreage under each kind of crop in the United Kingdom, and in the counties for which Bristol may be considered as a distributing center.

Crops.	United Kingdom.	Somerset.	Gloucester.	Wilts.	Dorset.	Devon.	Cornwall.
Grain crops:	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Wheat	2,713,282	52,671	75,231	78,222	36,059	92,966	36,870
Barley or bere	2,486,137	29,856	35,832	56,751	35,298	62,234	49,099
Oats	4,370,076	26,038	26,123	43,725	23,300	104,746	50,478
Rye	58,082	211	331	1,735	653	233	315
Beans	458,440	11,938	12,987	8,704	2,674	962	25
Peas	240,501	2,178	6,353	4,902	2,378	812	56
Total	10,326,518	122,892	156,857	194,039	100,362	261,953	136,833
Green crops:							
Potatoes	1,359,726	7,029	5,565	2,760	2,111	13,357	6,069
Turnips	2,346,216	31,707	39,129	57,848	39,718	77,449	27,833
Mangold	368,811	10,982	3,669	5,138	5,693	29,227	12,194
Carrots	17,184	246	143	236	72	235	114
Cabbage	187,685	3,130	923	10,215	2,649	14,088	7,773
Vetches and other green crops, except clover or grass	429,312	8,055	11,678	22,726	8,150	7,682	1,78
Total	4,708,934	61,149	61,107	98,943	58,393	142,038	55,771
Clover, sanfoin, and grasses under rotation	6,371,799	53,299	86,020	75,644	50,380	191,750	155,848
Permanent pasture (exclusive of heath or mountain land)	26,288,520	614,708	334,763	369,108	274,563	558,195	215,741
Flax	100,262	480	31	20	174	97	.....
Hops	68,016	.....	24	.....	.....	.....	.....
Bare fallow or uncropped arable land	803,225	9,562	17,846	18,777	6,830	30,899	11,481
Grand total acreage under crops, bare fallow and grass	47,667,274	862,090	656,648	756,531	490,702	1,184,932	575,624
Total area	77,799,798	1,049,815	804,977	859,303	627,265	1,655,161	869,878

NOTE.—Bristol also sells a good deal to South Wales, but that territory is in the consular district of Cardiff, and consequently is not included here.
The figures presented are from the British official agricultural returns for 1883.

MANCHESTER.

REPORT BY CONSUL SHAW, OF MANCHESTER.

I have the honor to report that in a general way American agricultural instruments are well known in this section of England.

The energy and enterprise of the leading manufacturers in the United States have led them to adopt the only practical and sure method of introducing American inventions in the line of labor-saving machinery for use in the various stages of agriculture, viz: the display of their machines at the leading agricultural fairs which are numerously held in England annually.

At these general and local fairs the very best opportunities are offered for manufacturers to exhibit their inventions, and those who have use for the same can see them and have them fully explained as well as witness them in practical operation.

As a rule English farmers are slow to adopt new inventions. Novelty does not captivate the average English farmer. An invention must be fully proved before a ready sale can be relied on. "The old way" has charms for the great majority, and for this reason it is slow work to introduce useful labor-saving inventions among them.

When confidence is once established and prejudices overcome the way is easy to success.

I recently attended the Royal Agricultural Society's annual show at Shrewsbury, and there saw three great American mowing and reaping firms very fully and creditably represented. The exhibitions of mowers and reapers were very fine, and all attracted great attention.

The English builders follow closely on the lines of American manufacturers, and it is vitally necessary for every American inventor to at once take out an English patent, so as to protect any new improvement on this side of the ocean.

The best possible way to introduce new American agricultural machinery to the notice of English farmers is undoubtedly to exhibit the same at the general and local "fairs" and "shows" in the leading agricultural counties. These are held in rotation, and it is an easy matter to secure an official list of the same some months in advance. This would enable intending exhibitors to work out a route so as to visit them in the least expensive way, and without going over the same ground too often.

There is no reason why American agricultural machinery of various kinds should not gradually secure a large sale in England. Where wood enters largely into the same, its extra cheapness enables American manufacturers to successfully compete against all causes, as far as price goes.

Some prejudices as to styles and peculiarities of make might well be carefully studied by our manufacturers—in some instances without detriment to our machines and with advantage to makers on account of the attractions which such attentions would secure for our machines in the English market.

I believe that expensive pictorial advertising amounts to little in securing orders for American inventions in this country. The best way is to demonstrate practically what a machine can do, and show how it does it under a trained expert. This allows the average farmer to see for himself "how it goes" and what it will do.

An hour's trial at practical work is worth any amount of advertis ing

What a farmer sees done he believes in; what he reads about he generally allows a large margin for doubts and fears.

Broadly stated, I believe that labor-saving machinery is now rapidly coming into use in England, and manufacturers of those inventions most successful in the United States among farmers can rely confidently on securing a market for them in England as soon as they are well known.

One point should always be kept in view by our manufacturers in sending machinery abroad, and that is to have every part fully and very carefully tested, and so take every precaution to have machines sent out in as perfect a condition as possible.

A break-down is a serious thing sometimes, owing to difficulties in the way of speedy repairs; and one bad machine frequently destroys a market for a dozen good ones.

Much, of course, depends on the manner of bringing exhibits before the people, but the way I have pointed out, and which has already for years been more or less followed, is not only practical, but the very best available.

In view of the vigor and enterprise with which this part of England is being worked by agents of American agricultural machinery, I have not deemed it necessary to make any extended report upon matters which are so well understood by American manufacturers generally. Owing to the perfect knowledge possessed by them, only the briefest general reference to this subject is believed to be in order in this connection and at this time.

ALBERT D. SHAW,
Consul.

UNITED STATES CONSULATE,
Manchester, August 5, 1884.

NOTTINGHAM.

REPORT BY COMMERCIAL AGENT SMITH.

Your circular calling for a report relating to agricultural machinery covers so much ground that I have found it difficult to answer it. I am not an expert in the matters mentioned in the circular.

Living here in a town of 200,000 inhabitants, daily occupied in the routine business of this office, I find little time to devote to other matters than those connected with the shipment of merchandise to the United States. I have, however, endeavored, by visits to manufacturers of agricultural implements, to agricultural fairs, and in other ways, to gather such information as I could with regard to the subject of your circular. The result has not been altogether satisfactory; I give such information as I have been able to collect.

The territory covered by a consular district is not very definitely marked. This district is supposed to include all territory which is nearer to Nottingham than to any other consulate or commercial agency. This designation is rather indefinite.

For the purposes of this report it is, however, sufficiently accurate to say that this consular district consists of the counties of Nottingham, Derby, Leicester, and the southern part of Lincoln. You will at once see that it covers a large district in the midlands of England. The agricultural capabilities of different parts of this area vary very greatly.

A large part of Derbyshire is hilly and broken. On its southeastern

borders it runs into the valley of the Trent, the banks of which are generally so level as to be frequently overflowed.

The counties of Nottingham and Leicester are less broken, but are not flat, except those parts which border upon the Trent. The surface of the country is generally moderately rolling. The greater part of Lincolnshire is flat, growing more so as it approaches the German Ocean. A large part of the eastern section of that country lies in what is known as the "fen country," much of it being actually reclaimed from the sea and drained at great cost. With such varied surface there is necessarily considerable variety of production.

The northwestern part of the district is full of beds of coal, the cheapness of which makes it an eligible place for manufactures. For that reason various industries have sprung up and flourish there, and agriculture is comparatively unimportant. The eastern part is almost exclusively devoted to agriculture. Unfortunately for the purposes of this report, that part of the district is the one with which I am the least acquainted. In fact, although part of Lincolnshire is nominally within this consular district, it is practically very unimportant to this office, as I am very rarely called upon to perform any official duty relating to matters within its borders.

There is a great variety of soil in the district, and a great difference in its productiveness, a large part of Derbyshire being hilly and stony, whereas that part of the district lying in the valley of the Trent is low and level. Parts of Nottinghamshire are of a heavy clay soil, while others are sandy, and others a gravelly loam. As a whole, the district is a good agricultural country.

Various crops are raised, such as wheat, barley, oats, turnips, beans, &c., while a large breadth of land is in grass, the latter portion apparently increasing.

The competition of America, India, and other countries in supplying wheat for the British market has made the cultivation of that crop one of doubtful profit, and its cultivation seems to be decreasing, the tendency being to lay down more land in grass, and the raising of cattle and sheep for the butcher.

Steam-engines for farm use of an admirable quality are manufactured by Messrs. R. Hornsby & Sons, of Grantham, in this district. They are to appearance almost identical with the same articles that I have seen advertised in the United States. They also manufacture reapers and mowers, including the self-binding reaper. All of these reapers and mowers seem to be founded upon the original inventions of McCormick, Wood, and others in America. If there are essential differences they are not apparent to one who is not an expert in machinery. The same firm manufacture thrashing-machines of excellent quality and strong in construction. They also make a variety of plows, cutting from one to four furrows. They make a variety of root-cutters, which are more used in this country than in the United States, as cattle and sheep are more commonly fed upon turnips and other roots. All the above-mentioned implements seem to be well built and well fitted for their several uses. I made a special visit to their extensive works and was very kindly shown through their very large establishment and given every facility for seeing the manner of making and the style of their machinery and implements. The steam engines manufactured by Messrs. Hornsby, of Grantham, and Howard, of Bedford, are used for thrashing purposes and as traction engines for steam plows.

I do not know to what extent steam plowing is practiced in this district, but I think not very largely, unless it may be in the eastern or

Lincolnshire part of the district, which is generally very level, and therefore well adapted to the use of steam plows.

For the purpose of steam plowing the firms above mentioned and others make plows which turn from two to six furrows at a time. Such plows, and most others made in the country, are composed entirely of iron and steel. They are strong and admirable of their kind, but I doubt very much if our American farmers would care to use them. They are very long both in beam and handle, and therefore difficult to turn at the ends of the furrows. They are also expensive, the cheapest for two horses costing about $20. They also make some plows with wooden beams and handles, but they seem to be in little favor, and I see very few in use.

At an agricultural show at Derby, which I visited, a few wooden-beamed plows were exhibited, but the iron-beamed ones exceeded them by ten to one. The shares of these plows are of very various patterns, some very long, others very short, and others of every intermediate style. These different styles are to meet the requirements of farmers, those upon clay lands using an implement very different from those in use in sandy soils. On the whole it seems to me that the English plows are strong and are as light as the material of which they are made will permit, but I doubt whether they would be considered the best for practical use by our American farmers.

The mowers and reapers made in this country have come to a high degree of perfection. They meet competition in those of Messrs. McCormick, Walter A. Wood, and others, who have established active agencies here. I have not sufficient knowledge of those machines to enable me to decide which has the superiority. There are frequent competitive trials of reapers and mowers and the victory is not always in favor of one manufacturer. From that fact I infer that there is no very great difference in the relative value of the different machines.

I think there is no agricultural implement of American manufacture that has been so vigorously and so successfully pressed upon the English market as the reapers. But the English manufacturers have so successfully imitated the best qualities of the American machines that with the natural prejudice in favor of their own countrymen, the English maker seems to me to take the preference here.

Mowers are sold at from £16 to £20. Reapers from £20 to £30. Reaper and binder at £60.

The Messrs. Hornsby & Sons make fanning-mills, the construction of which is very similar to those in use in the United States. Like all other English machines they are heavier, but whether they are stronger is doubtful. They seem well adapted to their work, and I see little to distinguish them from the American machines.

Harrows are of many different forms and styles. They are invariably made of iron and steel, and are therefore heavy. Some are very large, being dragged over the ground by the same power used in steam plowing. Their forms are very various, so that only an expert in such matters is able to speak confidently of the superiority or inferiority to the same machines in common use in America. Prices of ordinary harrow, from £4 to £7.

Cultivators of many forms are in use. They differ from those used in the United States, because the Indian corn crop is unknown here. Like all other implements made here, they are strongly constructed, and appear to do good work. They are too heavy to find favor in America, and cost from £7 10*s*. to £12 10*s*.

Smaller implements, called horse-hoes, are also used. Those I have seen are made entirely of iron and steel, and cost from £2 17*s.* to £8 15*s.*

Horse-rakes of excellent quality are made here. They seem to me to be modeled after American patterns. In fact, the Messrs. Howard advertise the "Anglo-American rake." This rake, they say, "effectually meets the demand for a light, cheap horse-rake." I have never seen a wooden horse-rake in use in this country. Prices from £8 8*s.* to £8 15*s.* Other horse-rakes made by them, at from £10 10*s.* to £14.

Hay-makers, or hay-spreaders, are in common use. They are made to be drawn by one horse, and seem to be well fitted for this purpose. They cost from £10 10*s.* to £16 16 *s.*

The Messrs. Howard manufacture excellent rollers and clod-crushers, which I think are more used in this country than in America. They vary in form and size, and cost from £10 to £22.

There are exhibited at the agricultural fairs which I have attended many smaller agricultural machines and implements. Of these the "chaff-cutters," as they are called, appear to me to be excellent, though expensive. They would be called straw-cutters in America. They generally act on the rotary motion, being turned with a crank and carrying a rather heavy balance wheel. Those turned by hand vary in price from £1 17*s.* 6*d.* to £6, those to use horse or water power cost from £8 10*s.* to £16.

I have found at the agricultural fairs a great variety of implements for use in the dairy. So far as I was able to see they seemed of admirable construction and offered at reasonable prices.

I am not able to give a detailed account of these implements. There is a large variety which seemed to me to be carefully made and well adapted to their proposed uses.

Temporary fences or hurdles are much used in this country. The turnip crop is often fed on the ground, and in doing so it is usual to fence off a small part of a lot with hurdles, that a flock of sheep may be turned in on the turnips thus fed on the ground. The hurdles are made both of wood and iron, the latter being used more in this country than in America, as iron is cheaper and wood dearer. They are strong and durable, and are sold at very reasonable prices. Farm gates are also offered for sale at what seemed to me to be very cheap rates.

Feeding racks and troughs for cattle, sheep, and calves, of various styles, are much used here. They are generally made of iron, and are usually strong and well-fitted for their uses. The prices vary with the style and size. Some are mounted on wheels, so that they may be easily moved from one place to another. I cannot well describe the many varieties of these racks and troughs. It appears to me that the English agricultural implements for hand use are inferior, generally, to those in use in the United States.

Hand rakes, hay forks, shovels, spades, and all implements of that class are generally heavier and made with less care than in the United States. In fact, the general characteristic of all implements in this country is greater weight than is required, and therefore requiring more strength than should be necessary to wield them. It may be that it is necessary to make them heavier on account of the timber in use. But this unnecessary weight acts upon the laborer, and he becomes accustomed to slower movements. He is therefore generally less efficient than the American laborer.

With the exception, perhaps, of reapers and mowers, I do not find American machinery much in use in this district. Messrs. McCormick, Walter A. Wood and others have done much to introduce their machines into use in England. What has been accomplished has been done by establishing agencies here under the charge of energetic and capable men. I think foreign machines cannot be introduced in any other way with a fair prospect of success. The English manufacturers are active and meet any competition with much spirit. They have the natural prejudice of their countrymen in their favor.

It is not easy to introduce new tools in place of old ones, although the new ones may be manifestly superior. Active opposition of manufacturers and middlemen goes far to hinder the introduction of new implements. There is no serious obstacle to their introduction through the customs charges, as they are practically free of duty. But to send goods of almost any kind here to be sold by native agents on commission has generally been found unremunerative, and dealers are rarely willing to purchase American machines or implements and take the risk of their sale. So that I think there is only one way of introducing American machines here, and that is by sending them over in charge of active and intelligent American agents.

Of course such an agent would labor at first under the disadvantage of being unacquainted with the habits and characteristics of the people, and also will be unacquainted with the responsibility of the parties with whom he will deal. Farmers and others here are in the habit of getting credit on their purchases, and a resident will be less likely to make bad debts than a stranger.

The laws, so far as I know, do not give natives any advantage over foreigners in matters of trade, but the habits of the people and the strong prejudice in favor of native makers and dealers give them a decided advantage over foreigners.

There are various smaller matters referred to in the circular, such as mode of shipment, tariff, &c., upon which I do not think it would be profitable to enlarge, as there is so much commercial intercourse between the two countries that all shipping merchants understand those questions better than I do and better than any person not engaged in trade between England and the United States.

I inclose catalogues of Messrs. R. Hornsby & Sons and Messrs. T. & F. Howard, with some smaller ones, throwing light upon the subject of agricultural implements made in this country.

JASPER SMITH,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Nottingham, November 14, 1884.

SOUTH OF IRELAND.

REPORT BY CONSUL PIATT, OF CORK.

Having made personal inquiries in the most important centers of the six counties which comprise the province of Munster, as to the class of agricultural machinery most suited to the district, the extent to which advanced appliances prevail, the tastes of the farmers in this respect, and the extent to which their requirements have been already met, &c., I am now in a position to report the result of these inquiries. I have

thought it well in connection with the subject to present the accompanying table, which shows the extent of land under crops in the six counties referred to.

CONDITION OF AGRICULTURE.

The farms vary in size from ten to two thousand acres. The average may be set down at one hundred acres. Very large farms are for the most part worked by the landlords themselves; but there is a considerable number of large farms worked by *bona fide* farmers. The cultivation of the land is, generally speaking, in a very backward state; antiquated machinery still prevails to a large extent, and improved appliances, notwithstanding the efforts of manufacturers and their agents, are not availed of so largely as might be expected. The farmers of the present generation have practically no means within their reach of acquiring an agricultural training, and too many of them are content to work in the same groove as their fathers. The greater security afforded hem by Mr. Gladstone's late land act, and the facilities given them for borrowing money at a low rate of interest, are, it is anticipated, likely to effect an improvement in the near future, and already there are indications of this improvement being brought about.

The nature of the soil is varied; it, however, chiefly consists of brown and lime stone, and is fairly productive. The agricultural condition of the land is fair, but in many parts there is no organized system and no regular rotation of crops. The cultivation consists generally of mixed husbandry, about one-half being tillage and one-half grass, with perhaps a little more of the latter. The following is a fair example of the course generally pursued on tillage farms: A lay field is plowed in winter, and grain is sown broadcast. After that crop is gathered the land is again plowed and manured, and a green crop is taken from it. In the third year a grain crop is again taken, and in the fourth year a hay crop (the seed of which is sown simultaneously with that for the last grain crop) is taken from the land, which is then devoted to grazing purposes for a year or two, after which the same course is repeated.

AGRICULTURAL IMPLEMENTS IN USE.

With respect to the agricultural tools, implements, and machinery employed, I find that on the small farms, and even on large ones in remote districts, these are of a very primitive description, consisting for the most part of the old Scotch swing-plow, sowing-machine, and grubber. There are no cultivators or wheel-plows in use, and in these districts the most simply made and cheapest plows, harrows, and mowing-machines are the only ones salable. Food-preparing and such-like machinery is scarcely known, or, if known, its value in the economizing of labor, &c., is not certainly appreciated. In the more enlightened centers, however, and on the large and well-managed farms, all the best machines of American and English manufacture are partially employed, and latterly, especially, their use has been gradually extending. American and English made machinery very generally prevails in the Cork district. Plows, harrows, grubbers, mowing and reaping machinery are imported from England, and mowing and harvesting machinery from America. The latter gives most satisfaction. In Kerry, where agriculture is perhaps more backward than in any of the other counties, there are very few American machines in use; in fact the only American machine of note in use in Kerry is Wood's mower, which is regarded,

not only in Kerry but throughout the province, and for that matter throughout Ireland, as superior to any mower yet introduced. In Limerick, Tipperary, Waterford, and Clare, England, America, and Ireland itself supply in about equal proportion the implements required by the farmers.

AMERICAN MACHINERY.

As to how American manufactures compare with those of other countries, I have found some diversity of opinion existing, except of course with regard to American harvesting machinery, respecting the superiority of which I could find no second opinion. With regard to the tillage machinery an idea prevails—and largely prevails—that though it is cheaper it is not so good or lasting as that imported from England. The American-made machines are found to be too light in construction, and not so well suited as the stronger made article which comes from England, for dealing with the hard, stony soil of Ireland. In Limerick County, where the soil is more loamy than in other parts of the province, the general run of American-made machinery compares more favorably with the English than is the case in other counties.

HOW AMERICAN AND ENGLISH MACHINERY IS INTRODUCED.

With a few trifling exceptions, America and England supply the wants of Ireland in the matter of agricultural machinery. English machinery is introduced by means of local agents dealing directly with the makers. American machinery is introduced by local agents, who are obliged to deal with the European agents of American manufacturers, having their headquarters in London, Liverpool, &c. If a more direct means of introducing American manufactures into Ireland could be devised, it would no doubt be productive of satisfactory results. This opinion is strengthened by the fact that local agricultural agents complain of difficulty in dealing with the European agents of American manufactures, and that the fact of their not dealing with these agents on as favorable terms as with the English manufacturers has had the effect of placing American manufacturers at a disadvantage, and the introduction of American agricultural machinery into some districts more difficult. It is right to add, however, that this opinion is not shared in by other agents. The purchases made by farmers in the south of Ireland from agricultural agents are chiefly on credit. Long credit is given by the manufacturers to the agents, who in turn give much longer credit to the farmers.

HOW MACHINERY IS HANDLED AFTER IMPORTATION.

With regard to the handling of machinery, the practice pursued is to have the machinery and implements most suited to each district, and which are most sought after by the farmers, warehoused by the agents. When sales are made the agents send experienced men to start the machines. The manufactures are brought generally by steamers from London, Liverpool, Bristol, &c. Except for the fact that England is nearer, she possesses no advantage over America in the matter of introducing machinery into Ireland, and any little advantage gained in this way is considered by the agents as more than counterbalanced by the willingness which farmers exhibit to give a preference to American-made machines.

WHAT IRISH FARMERS LIKE.

Proper mechanical construction, strength, and durability, are points that weigh much with Irish farmers when selecting agricultural machines. Tasty finish is a secondary consideration, though they are not altogether indifferent to this either, but, as they are very good judges, no machine that does not operate well has any chance with them. If an American machine combines strength with lightness and good finish, and is cheap, the farmers of Ireland will readily adopt it before those sent from any other country. What suits American tillage will not answer here so well, where a gravelly and stony soil has to be contended with. The English manufacturers keep this point well in view when manufacturing machines for Ireland, which is the real secret of their success in this direction. During recent years great efforts have been made to introduce American-made machinery, but success has been limited to harvest machinery. Of this class half that now in use in Ireland is of American manufacture, and of manufacturers in this department Walter A. Wood, of Hoosick Falls, N. Y., holds the first place.

DEALERS IN AGRICULTURAL MACHINERY.

J. McKenzie & Son, and James O'Connor, of Cork; Jacob Brothers, of Waterford; P. Pierce & Son, of Wexford; P. & T. Murphy, of Clonmel; these are among the leading and reliable firms who deal in agricultural machinery and implements, both English and American, in the south of Ireland, and might safely be intrusted by such American manufacturers as are desirous of negotiating for the importation and sale of their machinery and implements here. There are no tariffs worth speaking of in connection with the importation of machinery, and direct through freights from American ports can be had at prices almost as cheap as would be charged from an inland English town. It will be thus seen that English manufacturers (the only ones competing with American manufacturers so far as Ireland is concerned) enjoy no special advantages.

HOW TO INTRODUCE AMERICAN MACHINERY.

If American manufacturers should turn their attention towards supplying tillage machinery more suited to the requirements of the soil of Ireland there is little reason for doubting that in a short time it would, in the same way as the harvesting machinery has already done, commend itself to popular favor. A good means of effecting this would be to set a few of the improved machines at work in each district, for the invariable rule observed in Ireland when a new machine is introduced into a district, is that all surrounding farmers closely watch its operations and see for themselves the result, and if it proves a success it is at once adopted and a demand for it follows.

JOHN J. PIATT,
Consul.

UNITED STATES CONSULATE,
Queenstown, July 20, 1884.

Extent of land under crops, in statute acres, province of Munster, 1883.

Items.	Clare County.	Cork County	Kerry County.	Limerick County.	Tipperary County.	Waterford County.	Total.
Number of acres	768,265	1,838,921	1,159,356	662,973	1,048,969	456,198	5,934,082
Wheat	2,383	14,259	1,114	3,121	6,654	2,625	30,147
Oats	16,107	104,971	25,811	23,833	56,159	31,860	258,741
Barley	1,298	19,702	3,794	2,239	15,872	1,366	44,266
Rye	657	157	414	32	130	26	1,416
Beans and peas	545	43	12	2	12	5	619
Potatoes	14,639	64,542	28,416	22,673	34,005	13,857	188,132
Turnips	6,076	33,104	5,073	5,111	20,492	6,923	76,779
Mangel-wurzel and beet-root	1,968	6,425	1,473	1,073	1,959	1,900	14,798
Carrots, parsnips, and other green crops	750	1,816	823	1,030	1,059	590	6,068
Cabbage	1,545	3,047	3,376	1,521	3,029	1,203	13,721
Vetches and rape	51	2,034	358	42	384	73	2,942
Flax	57	81	59	7	4	1	209
Total under tillage	56,071	250,172	70,723	60,684	139,759	60,429	637,838
Meadow and clover	82,101	156,102	82,759	112,595	119,900	20,875	574,332
Total extent under crops	138,172	406,274	153,482	173,279	259,659	81,304	1,212,170
Population in 1881	141,457	495,607	201,039	180,632	199,612	112,768	1,331,115

EASTERN SCOTLAND.

REPORT BY CONSUL MALMROS, OF LEITH.

Responding to the circular received from the Department of State relating to agricultural machinery and to the extent of territory under review in a report from this consulate, the nature and productiveness of the soil, the agricultural condition thereof and mode of cultivation, I beg to report as follows:

AREA OF CONSULATE.

With reference to the first of the points suggested in the circular as specially deserving of answer, namely, the extent of territory embraced in this report, I may state that for all practical or consular purposes the territory must be held to comprise the whole of the counties located in the southeastern part of Scotland; these are, at the least estimate, Edinburgh or Mid Lothian (within which are the metropolitan city and the port of Leith), Linlithgow or West Lothian, Haddington or East Lothian, all of which are bounded on the north by the Firth of Forth, and Peebles, Selkirk, Berwick, and Roxburgh, the two latter counties having England on their southern boundary.

The total area of the territory thus indicated is 1,602,715 acres.

AGRICULTURAL STATISTICS.

The total acreage within such area under each kind of crop, bare fallow, and grass, and the number of horses, cattle, sheep, and pigs within said area, as returned upon June 5, 1883, are shown by the following table:

CROPS, ETC.

	Acres.
Corn crops	226,514
Green crops	124,158
Sainfoin, clover, and grasses under rotation	211,934
Permanent pasture, or grass not broken up in rotation (exclusive of heath or mountain land)	190,069
Flax	8
Bare fallow or uncropped arable land	2,575
Total acreage under crops, bare fallow, and grass	755,258

LIVE STOCK.

Horses (including ponies) as returned by occupiers of land	21,310
Cattle	75,642
Sheep	1,418,703
Pigs	22,316
	1,537,971

As to the division of this district into farms, large or small, I have to state that farms are largest in the counties bordering on England. Farms there of less than 50 acres are few in number, and those of from 300 to 500 acres the most common.

It is found, however, that an area of a square mile (640 acres) is about the limit of size that can consistently with economy of labor be cultivated in connection with one homestead; and hence, when that extent is much exceeded, a supplementary steading has to be resorted to. In the fertile soils of the three Lothians and in Fifeshire there is a predominance of farms of from 200 to 300 acres each. In proceeding northwards and beyond the Firth of Tay there are, along with a multitude of holdings called crofts, of 10 acres and under, a few farms of 500 acres and upward, a great number under 100 acres, and those of from 100 to 300 the most numerous of all.

The following table shows the wheat-producing areas within this consular district, and the various rocks with which they are associated in each county. The limit of wheat cultivation in Scotland is 500 feet above the sea-level:

County.	Area most favorably situated for wheat.	Situation in county.	Principal underlying rocks.
	Acres.		
Edinburgh or Mid Lothian	26,000	Sea-coast districts	Carboniferous and trap.
Linlithgow or West Lothian	10,000	From Linlithgow eastward	Carboniferous and trap.
Haddington or East Lothian	70,000	Nearly whole county excepting Lammermoor Hills.	Carboniferous, felstone, and trap tufa.
Berwick	28,000	The Merse and river sides	Carboniferous and trap rock.
Roxburgh	18,000	Tweed and Teviot dales	Carboniferous and trap rock.

Peebles and Selkirk, two central counties of the district of considerable area [394,393 acres], do not appear in this table, as they have little or no wheat land.

The Merse, above mentioned, is a large champaign fertile district in the southern part of Berwickshire.

The soils of Scotland, as might be expected from its surface and geology, are often various in even a single field. Nevertheless they have in many instances of both the excellent and the inferior, long and broad expanses of uniformity, and, while in the aggregate poorer than those of England, they vie in their rich tracts with the wealthiest in the three kingdoms. Amongst the finest of these highly cultivated tracts of country is the greater part of the Lothians. Much of the other portions of this district is also in a high state of cultivation.

CONDITION OF AGRICULTURE IN EASTERN SCOTLAND.

The characteristic features and present condition of the agriculture of the eastern side of Scotland, including the whole of this consular district, may be summarized as follows:

Over all that stretch of country extending from the English border to the Orkney Islands, the system of husbandry is, in its main features,

essentially the same. As a rule the whole of the arable land is cultivated by tenant farmers to whom it is let on leases for a term of years, nineteen or twenty-one years being the usual term. In these leases the tenant is bound under penalties to adhere to a strictly-defined rotation of cropping. With certain exceptions, due to specialties of soil or situation, the five-course may be said to be the rotation of this side of Scotland. Under this course one-fifth of the farm is annually in oats, one-fifth in turnips or other drilled green crop, one-fifth in barley or wheat, with the seeds of clover and grass sown amongst the grain crop; one-fifth in mixed clover and rye grass [called young grass in Scotland], and the remaining fifth the same seeds allowed to lie for pasture for a second year. If the farm includes a portion of land in old grass the tenant is usually prohibited from ever breaking it up. It is as the result of prolonged experiments that this five-course rotation has secured such universal acceptance. It provides for a well-balanced system of husbandry, in which grain and green crops are beneficially proportioned and arranged. The preponderance of the green crops provides for the keeping of live-stock in the largest possible numbers. The manure thus produced insures good crops of corn, and the work of the farm is equally distributed over the whole year. Whenever the soil is so decidedly argillaceous as to be unsuited for turnip culture a rotation embodying the same principles, but extending to six years, is in use. Under it the sequence is, 1st, oats; 2d, beans; 3d, wheat; 4th, naked fallow; 5th, wheat; and 6th, clover and grasses. Sometimes the seeds lie for a second year, making a course of seven years. On fertile loams, such as abound in the Lothians, in Fife, and in portions of some other counties, this six-course is varied by substituting potatoes in whole or in part for beans, turnips for bare fallow, and barley after turnips instead of wheat.

Whatever the rotation prescribed in the lease the tenant, as a rule, is debarred from selling straw, turnips, or manure off his farm, and is bound to consume the whole fodder and green crops by his live-stock, and apply the manure so produced to the farm. If hay or potatoes are sold off the farm the area that may be under these crops is strictly defined, and usually with a stipulation that a proportionate quantity of purchased manure shall be brought on to the farm. Such restrictions and stipulations are of course introduced for the purpose of maintaining the fertility of the farm, and of restraining the tenant from wasting it by careless cultivation or excessive cropping.

Previous to the introduction of concentrated portable manures and the now prevalent practice of giving cakes and meals to sheep and cattle along with the green crops of the farm, these restrictions in cropping and in the disposal of produce were reasonable and beneficial. Now, however, when many tenants expend in the purchase of manures and feeding stuffs an annual sum equal to or exceeding the rent of their farms, and when all purchase manures and feeding stuffs to a greater or less extent, it has become impolitic and unjust to retain the old restrictions under such altered circumstances. There is a growing opinion that so long as a tenant keeps his land clean and in good condition it is alike for his interests and his landlord's that he should be at liberty to crop as he likes, and to sell what he pleases.

The labor power in people and horses necessary for the working of a farm, whatever its size, is a fixed quantity throughout the year, the only exception being at corn harvest, or at potato lifting, when that esculent is grown as a market crop, at which seasons additional help is always needed. To work a farm of loose, open soil on the five-course

rotation a usual proportion is one man and a pair of horses for each 100 acres, or rather for each 20 acres of the five-course crop division. On heavier soils the whole tillage operations are not only more laborious, but the necessity of carting the whole crop, almost always turnips, to the homestead, instead of consuming a large proportion of it by sheep where it grows and where it is cut up, so adds to the work that 15 or 16 acres of fallow break may be as much as can be accomplished.

The cultivation of wheat in Scotland has much diminished of late years, while there has been a corresponding increase in that of barley. This is due to the fact that this county is so abundantly supplied with imported wheat, chiefly from the United States, superior to the home-grown wheat, that an average crop of the latter has come to be worth less per acre than one of barley, which suits the climate here, yields abundantly, and is of a quality superior to any that is imported. Oats is the staple cereal of Scotland.

Reaping, in the earliest districts in average years, begins from 10th to 20th August. This arduous work is exclusively performed by reaping machines drawn each by a pair of horses.

CULTIVATION BY STEAM-POWER.

Cultivation by steam-power is in use in nearly every country embraced in this report. In a few cases proprietors and farmers have purchased this powerful machinery for their private use, but more commonly companies or individuals provide the tackle and work it for hire. As in other novel applications of steam-power, it is probable that the best form and most economical manner of using it has not yet been attained to in this case. There can be no doubt that, when handled with competent skill, tillage operations performed by steam-power are much superior in effectiveness to those of a similar kind performed by horse-power. Powerful machinery of this kind, with implements expressly constructed to overcome special obstacles, has been successfully used in Sutherlandshire in reclaiming large tracts of waste land in that county, and a set of these special implements was used with entire success in the reclamation of waste land on several Lammermoor farms. These farms are located on a broad range of moor heights, called the Lammermoor Hills, stretching eastward from the vale of Galawater, in the southeast extremity of Mid Lothian, to the German Ocean. By first breaking up thoroughly the tough turf, with its covering of heather and other coarse herbage, and then compressing and mincing it into morsels, the land can be sown with rape the first season, and is ready thereafter for ordinary tillage operations.

DRAINING AND SUBSOIL PLOWING.

"Thorough draining" and subsoil plowing came to be understood in the year 1835, and have since then been practiced to such an extent as to have changed the very appearance and character of whole districts of Scotland and prepared the way for all other agricultural improvements. So extensively has the system of underground drainage been carried out, that in all the best cultivated localities the old plan of keeping the surface soil comparatively dry by throwing it into parallel rounded ridges of a uniform width of 5 or 6 yards, with open cross-cuts in all hollows and at the end of the ridges, has been entirely abandoned, and the land laid as flat as possible, to the great furtherance of mowing and reaping by machinery, of plowing by steam, and generally of all tillage operations.

OLD-TIME CULTIVATION.

Previous to the present century, the implements and machines used in agriculture were few in number and primitive in construction. With the progress of the art, a constant crop of new contrivances has grown up to meet its new requirements, until at length the manufacture of agricultural implements and machinery has become one of the leading national industries of Great Britain.

The agricultural tools, implements, machinery, &c., now used in this and all other highly cultivated districts of Scotland are similar to, or almost identical with, those generally used in the United States.

ADVANCED APPLIANCES.

Advanced appliances usually prevail and are preferred. Implement makers throughout Great Britain are ever watchful to improve upon any type of machine, tool, or implement which may be deemed imperfect or deficient in accomplishing its work, and every novelty of merit which can be copied in the construction of any machine or implement is copied by those makers.

AMERICAN AND BRITISH MACHINERY.

In relation to advanced appliances, and in evidence of the readiness with which they are accepted, I may state that since the trial of reapers at Glasgow two years ago, under the auspices of the Highland and Agricultural Society of Scotland, considerable progress has been made in the recently invented sheaf-binding reapers. At different periods and places semi-public trials of these machines have been held, and steady progress has been observed, both in the work and in the adaptability of the binders to harvest requirements. At each of those field tests favorable impressions of the great utility of the machines were formed on the practical mind and several sales effected. By far the most exhaustive trial of these machines ever held in Great Britain took place last month near Shrewsbury, England. It was held in connection with the Royal Agricultural Society of England, and lasted over seven days. Sixteen machines—ten of English and six of American manufacture—entered in competition for the £100 [$486.65] and the £50 [$243.32] prizes offered by the society. The machines were all duly tested by means of the ingenious dynamometer of the society; thereafter wheat, oats, and barley, some standing and much of it laid and broken down, were experimented on with astonishing success. Even on hilly and sloping land good work was made. It was, in fact, the excellence of the work and the seeming equality of the performances of the various machines that prolonged the trial days after the time it was expected to close. Better cutting and tying could not be wished and speedier could scarcely be got; an acre was cut and bound in thirty-three minutes.

Contrary to the results of the three previous trials under the Royal Agricultural Society's auspices, both the prizes on this occasion were given to English manufacturers. The first prize of $486.65 was awarded to Richard Hornsby & Sons (limited) of the Spittlegate Works, Grantham, for their new string sheaf-binding harvester (Shrewsbury catalogue No. 4568), and the second prize of $243.32, to James & Frederick Howard, of the Britannia Iron Works, Bedford, for their "Simplex" sheaf-binding reaper, No. 47.

One of the newspaper reports of the long-contested trial of reapers contains a remark worth noting by our manufacturers, as follows:

In more than one of the machines was observed a liability of the reel to toss the cut barley; and even experts sent expressly from America to run the present trial did not always succeed in preventing this in such a difficult piece of work.

And I may add the following quotation from a letter which appeared in the Times (London), of August 16, 1884, in correction of some misstatements alleged to have been made in that newspaper with reference to the "Royal trials of sheaf-binders at Shrewsbury:"

The victory of R. Hornsby & Sons (limited) of Grantham in the sheaf-binder trials of the Royal Agricultural Society was greater than appears from the bare announcement that they won the first prize of £100. All three of their machines which started among the original sixteen were in the competition of the eight selected machines; and when, on the last day of the trials, the struggle became reduced to five machines, there were still three of Hornsby and one of Howard and one of Samuelson. The American binders were beaten by British machines, better adapted to our storm-broken and difficult crops.* * * The final contest on Wednesday, Hornsby's No. 4568 and No. 47 alone entered the field, the test being to cut twice round a most difficult crop of barley, the stuff being very badly laid out and in places grown through. Both binders made a triumph in this severe test without any stoppage, except that an unfortunate hedgehog had to be cleared off Howard's cutter bar. The result was to place the Grantham machine first and the Bedford machine second, after these protracted and most careful trials, admirably conducted by some of the most competent practical agriculturists in England.

In this connection it may not be out of place to mention that the machine that won the first prize on this occasion "is said to have been improved in several essential respects, and to have been made much lighter, both in weight and draught, than those formerly constructed by Messrs. Hornsby."

Experience in actual business under farmers' own management has afforded during present harvest valuable illustrations of the vast advantages conferred by the sheaf-binding reapers, American and English made. It is expected, from the remarkably satisfactory use of those machines in Great Britain and Ireland during this harvest, that a great number will be adopted in readiness for next year. It is noteworthy that, besides the immense trade in the United States and in the colonies which has been done by the McCormick Company and other American makers, Mr. Walter A. Wood, of Hoosick Falls, N. Y., has sold no fewer than 10,368 sheaf-binding reapers in the present year.

So much is said regarding one of the most recent and valuable inventions in agricultural machinery, on purpose to show the interest that farmers and others here take in modern appliances which appear to have merit, and to show the commendable emulation that exists between the manufacturers of America and those of England to supply the wants of this nation in agricultural machinery.

AMERICAN MACHINERY PREFERRED.

The Highland and Agricultural Society of Scotland held their annual (and centennial) exhibition in Edinburgh in July last, and the number and variety of agricultural machinery, tools, implements, &c., on exhibit during the four days competing for the handsome awards offered for excellence were much greater than on any former occasion. Besides many varieties of sheaf-binders and reaping and mowing machines, there were thrashing-machines, fanners and winnowing-machines, bone crushers and mills, turnip and mangold sowers, potato-diggers, horse-rakes, manure-distributors, grain and grass seed drills, plows, harrows, steam-engines, traction and locomotive engines, and many other ma-

chines and apparatus of newest design, and most varieties of implement and utensil used in modern husbandry.

A specialty among the exhibits on this occasion is particularly deserving of notice by reason of it showing, as a probable result of a growing experience of the light-made agricultural machinery imported from the United States, that the taste of both machine-makers and agriculturists here is gradually being educated in the direction of making and using less cumbrous machinery and implements than formerly. It is as follows, as reported in one of the Edinburgh newspapers:

> The feature of the stand of Messrs. George Sellar & Son, Huntly, is the display of implements—plows, drill-plows, grubbers, and harrows—all in steel instead of iron. The introduction of steel reduces the weight by about a third, while it adds to the rigidity and affords equal strength.

No machinery, implements, tools, &c., for use in agriculture are imported from any country except the United States.

Dairy utensils from Holland are imported to England, but not to anywhere in Scotland.

For many years American reaping and mowing machines and sundry other machines and implements of American manufacture have had the preference with skilled agriculturists, although much prejudice existed, and to a great extent still exists, in favor of heavy, cumbrous implements, &c. But while the less skillful or less advanced farmers are gradually growing away from such prejudice, the British machinist is accommodating his manufactures to the improving taste of the farmer and making them lighter, substituting malleable for cast iron in some instances, and introducing steel for iron in others, thus bringing the various articles in closer resemblance to those imported from the United States.

American manufactures, beyond question, compare favorably with British. No others are in competition with them.

HOW AMERICAN MACHINERY IS INTRODUCED.

Manufactures from the United States for use in agriculture are introduced into Great Britain almost solely through agencies and branches of American houses in London, Liverpool, and Glasgow. One American firm had a branch in Edinburgh some years ago, but it was ultimately discontinued and the business transferred to London. In the stores of the various implement dealers and ironmongers in Edinburgh and Leith are many machines, implements, tools, and apparatus of American make, but these I am told are all procured from American houses or agencies in one or other of the three cities above named.

Purchases by farmers are usually on time, perhaps six months or even more. Long credit is common, but, generally speaking, farmers as a class are quite reliable in their transactions. Purchases in the trade or by the dealers in agricultural implements are made usually on time—three months.

As to the handling of American manufactures from the time of landing until they are in the farmers' possession, I have to state that they are received by the agent in London, Liverpool, or Glasgow, who supplies them as required to the traders throughout the country, and the farmers generally obtain them from those traders. The means of transit are very complete by rail and otherwise throughout Great Britain, and the charges for carriage are moderate.

American manufactures are imported by steamships direct to the ports above named.

TASTES OF THE FARMERS.

Hitherto the tastes of the farmers in this district, and in Scotland generally, with regard to the make-up of machinery, tools, and implements, have been greatly in the direction of weight, that having been understood by them to be indicative of strength and endurance, as already shown in the foregoing pages, but very many of them have learned to value the light, strong, and lasting make of machines and implements imported from the United States, and large numbers of American machines and implements continue to be sold in this country.

No efforts ever appear to be made by agricultural machinists of other countries to compete with the American and British machinists here.

FIRMS ENGAGED IN THE SALE OF MACHINERY.

There are no men or firms in Edinburgh or Leith who import agricultural machinery, implements, tools, or apparatus.

The following are names of men or firms in this district who deal largely in agricultural machinery, implements, tools, &c.:

Messrs. A. and J. Main & Co., agricultural implement agents and manufacturers, Corn Exchange Buildings, Edinburgh.

Thomas Scott, agricultural implement dealer, wholesale ironmonger and iron merchant, Grassmarket, Edinburgh.

A. T. Pringle & Co., agricultural engineers, Corn Exchange, Edinburgh.

A. M. Russell, farm and estate furnisher, Corn Exchange Buildings, Edinburgh.

T. Edmondston & Son, iron merchants, &c., West Bow, Edinburgh.

Redpath, Brown & Co., iron and metal merchants, Grassmarket, Edinburgh.

Robert Loraine, agricultural implement maker, 160 Canongate, Edinburgh.

Robert Young, ironmonger, &c., 15 Morrison street, Edinburgh.

Peter Wilson, 3 Walles Place, Easter Road, Edinburgh.

H. Laird & Co., wire-netting manufacturers and commission agents, Corn Exchange Buildings, Edinburgh.

Alexander Newlands & Son, agricultural-implement makers, Provost Road, Linlithgow.

Thomas Sherriff & Co., implement manufacturers, Dunbar.

Andrew Shiel, implement manufacturer, Coldstream.

William Elder, Tweedmouth Implement Works, Berwick-on-Tweed.

M. A. Thompson, Old Tweedmouth Implement Works, Berwick-on-Tweed.

Thomas Black & Son, implement makers, Berwick-on-Tweed.

Most of the men or firms in Edinburgh named in above list deal in American machines or implements, although none of them import any.

There is no tariff on importations of agricultural machinery, implements, &c., into Great Britain.

OSCAR MALMROS,
Consul.

UNITED STATES CONSULATE,
Leith, September 9, 1884.

SWITZERLAND.

BASLE.

REPORT BY CONSUL GIFFORD.

In compliance with the Department circular issued on the 20th of February, 1884, received at this consulate on the 7th of April following, I submit such information as I have been able to obtain in regard to agricultural tools and machinery used in this part of Switzerland.

FARMING IN THE DISTRICT OF BASLE.

The farms in the cantons of Basle, Argovie, Soleure, and Neuchâtel are in general very small. A few in Basle and Argovie embrace a hundred acres, and even more. Such are the well-known estates of "Horben," Sentenhof, Bad Schinznach, Frohburg, and Reisen, but these are entirely exceptional cases, the most of the arable territory being almost infinitesimally subdivided. It is this fact which renders the introduction of improved agricultural machinery so difficult. A few acres of grassland, or a few square rods, or even a few square yards, of wheat or rye do not present a favorable opportunity for the introduction of mowers and reapers. The payment of 20 or 30 cents a day, with board and lodging, compensates all the labor necessary for securing the crop where the efforts of the proprietor, his wife, and his children of both sexes are insufficient for that purpose.

The hill-sides are in general covered by vineyards. The alluvial bottoms and valleys lying between mountain ridges, often very narrow tracts, but sometimes as level and as free as prairie land, grow good crops of grass, oats, wheat, barley, and rye. But for all these different kinds of culture, in a country which is so largely occupied by lakes and mountains, there are more than hands enough. Hundreds emigrate every year to the United States who, for 50 cents a day with board, would gladly pass their lives in the use of the spade, hand-rake, and scythe.

IMPORTED MACHINES AND IMPLEMENTS.

On the large estates mentioned, however, and some of less importance, all sorts of agricultural machinery are in use, such as sowing and mowing machines, plows, harrows, cultivators, rollers, thrashing-machines, fodder and root cutters, and crushing-machines. Nearly all of the larger instruments except plows come from Germany, particularly from the great establishments of Lang & Co. in Mannheim, and Eckert in Berlin. The smaller tools and forks, especially those used in the extensive vegetable culture of Argovie, are often the so-called American articles. But frequently these latter are mere imitations, imported from Germany or rudely hammered out on the anvil of the village blacksmith. The home-made article is not of course to be compared with the real American one, but it is cheaper and by virtue of its name contents the possessor.

To sum up, in a word, the commercial situation of agricultural machinery and implements. Germany has the monopoly for the larger articles, and the United States, nominally, for the smaller ones. A

Swiss commercial traveler who has had very great experience in placing agricultural machinery assures me that such is the force of routine and habit in the country districts that it is useless to offer for sale anything but the German machines to which the people are accustomed, even if cheaper articles of equal value could be offered. The same preference accorded to the United States for hand-tools is based on the acknowledged fact that they are unsurpassed in quality, elegant in form, and light to handle. It is regrettable that imitations or adaptations are so readily accepted and used.

HOW GERMAN MACHINES ARE INTRODUCED.

The principal German house introduces its wares through a general agency established at Gnadenthal. Other houses employ traveling agents for that purpose. Hardware dealers throughout the district keep the smaller wares on hand, partly on commission and partly purchased on their own account. No branch houses of foreign manufacturers appear to exist here, the importance of the business not being sufficient to warrant such establishments.

HOW TO INTRODUCE AMERICAN IMPLEMENTS.

If American manufacturers could think it worth while to send out agents well acquainted with the people and their language, something might be done to increase the sale of small agricultural implements. It would be necessary in all cases to accompany the merchandise with circulars and tickets in the German language for all parts of this district, except the northern part of Berne and the canton of Neuchâtel, where the language is French. But the field is very small; for it is not an agricultural, but essentially an industrial community.

It would also be necessary to offer the articles in question at a very low price. By the confession of the people themselves the small cultivator is saving even to stinginess. This disposition has been confirmed by a succession of bad harvests for several years. Moreover, he is forced to buy for cash, credit not being within his reach; and the necessity of immediate payment is another restraining influence.

WHAT THE SWISS FARMERS WANT.

Strength and durability are the first requisites demanded for his tools by the Swiss cultivator, but he does not object to the elegance and finish of imported articles if the cost is not thereby unduly increased. In American tools especially he expects a high finish, lightness, and elegance of form, having learned from experience that these articles are by no means inferior in strength. The change from the implements originally used here, and which are still commonly seen, is very great, the native plow resembling objects of that kind exhibited in archæological collections, and the scythe being apparently an exact counterpart of that which is represented in the hands of "Time" in the primer.

DEALERS IN MACHINES AND IMPLEMENTS.

There are no establishments in this part of Switzerland exclusively devoted to the sale of agricultural machinery. Americans wishing to introduce their manufactures must either employ special agents or make some arrangement with the hardware dealers who keep such articles for

sale. The principal dealers here are J. J. Bohny, 8 Hutgasse; Kern-Schalch, 52 Steinengraben; Andreas Ludwig, 6 Rosshofgasse; Rudolf Preiswerk, 18 Malzgasse; A. Scheuchzer, 19 Petersgraben.

GEORGE GIFFORD,
Consul.

UNITED STATES CONSULATE,
Basle, July 7, 1884.

BERNE.

REPORT BY CONSUL-GENERAL CRAMER.

AREA AND PRODUCTS.

I have the honor to acknowledge the receipt of the Department's circular of the 20th of February last, requesting information and suggestions respecting the use of agricultural machinery, implements, tools, &c., within the territory embraced in this consular district, that might serve for the guidance of the American manufacturers and exporters of these articles in their efforts to reach out for foreign trade, and to supply the wants, in this regard, of foreign countries.

In relation to this subject I have the honor to submit the following information and suggestions:

The territory embraced in this consular district, namely, the canton of Berne, and parts of the cantons of Soleure and of Neuchâtel, is, to a very large extent, mountainous and contains a number of lakes and other small bodies of water. The canton of Berne has an area of about 3,400 square miles, with a population of 532,164 inhabitants; Neuchâtel has an area of about 300 square miles and 103,732 inhabitants; and Soleure 280 square miles and 80,424 inhabitants. In Neuchâtel, wine, fruit, hemp, flax, grain, and grass and hay for cattle are the principal agricultural products, but the grain crop is not sufficient to sustain the population. Wine-growing and cattle-raising are the most important branches of agricultural industry. Much of the level parts of Soleure is occupied by meadows and pastures, upon which large numbers of cattle are kept. The grain-growing land in these two cantons is situated in the hilly parts thereof, and is divided into narrow strips, so that no agricultural machines can be used; besides, it would "not pay" to use them.

The same is the case, to a great extent, in the canton of Berne. By far not enough grain is raised here for home consumption. This canton is celebrated for its mountains, Alps, and glaciers Much of its cultivable land is occupied by meadows and pastures, that is, for dairy purposes; much, if not most, of the so-called "Swiss cheese" for export is made in this canton. The sizes of the farms range from 20 to 150 acres each, but these farms are not always contained in *one* piece of ground; parts of other farms intersect them, the result of a division of landed property among the farmers from early times. This fact alone precludes the use of agricultural machines, for if one farmer plants wheat, rye, oats, &c., in an acre of ground, the neighboring farmer may perhaps plant, in the adjoining acre, potatoes, or clover, or another dissimilar crop.

AGRICULTURAL IMPLEMENTS IN USE.

For plowing fields the old-fashioned plows are mostly used; the ground of smaller pieces is broken with the mattock and hoe. For purposes of reaping and mowing the sickle and scythe are used. During my walks and visits in this canton, I have seen no mowing or reaping machines employed. The agricultural tools and implements in use are the old-fashioned plow, harrow, mattock, hoe, shovel, sickle, scythe, rake; for thrashing and winnowing purposes, the flail and pan, or winnowing basket, are used.

IMPORTED TOOLS AND IMPLEMENTS.

Some of these tools and implements are made in Switzerland, and some are imported from France and Germany, and even from the United States, especially those in whose composition iron or steel forms the principal part. It may be safely said that for solidity of the material, for elegance of form and finish, for durability and handiness, the tools and implements manufactured in the United States—such as hatchets, axes, saws, shovels, hoes, sickles, scythes, plows, &c.—are superior to those manufactured elsewhere.

HOW IMPLEMENTS ARE PLACED ON THE MARKET.

Such articles as are introduced from other countries are generally placed on the market by traveling agents sent out by large manufacturing firms; the latter send, also, illustrated price-catalogues to dealers in hardware, and thus make themselves and their articles favorably known. The system on which purchases are made is generally the credit system, ranging from two to six months, if not longer. In my opinion there is far too much business done on the credit system, and far too little on the cash system; all of which proves detrimental to a very considerable degree to the parties concerned, as well as to trade and commerce in general.

From the time these articles leave the factory until they are in the hands of the farmers and mechanics, their handling is generally done in a careful manner.

WHAT THE FARMERS WANT.

The tastes of farmers, &c., in regard to the neatness of finish and general stylish make-up vary. They generally look more at the strength and durability of the articles they desire to purchase than at the stylish make-up; but if the latter is united with the former, then they find a real pleasure in them.

TRANSPORTATION AND TARIFF.

As to the cost of the transportation of such articles, I have no data concerning their cost across the ocean; the railway tariff in Germany, France, and Switzerland is, perhaps, 2 or 3 per cent. higher, per hundred-weight, than in the United States. The import duty in Switzerland on iron and steel goods is 5 per cent. ad valorem, or from 12 to 60 cents per hundred-weight, according to the composite nature of the metal and the manner it has been wrought or elaborated. On cutlery it is 16 francs, and on fire-arms 30 francs per hundred-weight. As to

railway tariff in Switzerland, it is difficult to calculate the freight tariff, since the different railway companies in Switzerland have each a separate tariff; hence there is no uniformity in this respect. Basle is the principal city of entry for foreign goods. The freight tariff from Basle to Berne is, for fine piece-goods, 1.60 francs per 100 kilograms, 1.28 francs per 5,000 kilograms, and 1.12 francs per 10,000 kilograms. For coarse goods, 1.60 francs per 100 kilograms, 1.12 francs per 5,000 kilograms, and 0.96 francs per 10,000 kilograms. A uniform through freight tariff does not exist.

HOW TO INTRODUCE AMERICAN MANUFACTURES.

If American manufacturers desire to place their articles on the Swiss markets it is advisable that they combine neatness of form and finish with strength and durability. Illustrated price-catalogues (printed in German for German Switzerland, and in French for French Switzerland), judiciously distributed among hardware dealers and farmers, would, in my opinion, contribute much towards making known and introducing into this country the various tools and implements of American manufacture.

Let a number of manufacturers engage an energetic and intelligent gentleman who speaks French and German, and who, in a central town, say Berne, Zurich, or Basle, having a sample store, shall travel throughout Switzerland, distributing illustrated price-catalogues, and soliciting orders from hardware merchants, &c., and thus make known the kind and quality of the various tools and implements to be had at reasonable prices from American manufacturers: such an agent will soon learn whether American goods of that description can be successfully introduced into this country without incurring the risk of having a large unsalable stock thereof on hand.

IMPORTERS OF AGRICULTURAL IMPLEMENTS.

The following firms in Berne are engaged in the sale of the above-mentioned articles, who are said to be trustworthy; namely: A. G. Christen, Marktgasse, Berne; G. Ioho, rue d'Arsénal, Berne; J. G. Kiener, rue l'Hôpital, Berne; Joseph Meyer, rue du Marché, Berne.

M. J. CRAMER,
Consul-General.

UNITED STATES CONSULATE,
Berne, April 18, 1884.

ZURICH.

REPORT BY CONSUL BYERS.

Referring to Department circular of February 20, concerning reports on agricultural machinery, I beg to state as follows:

SWISS FARMS.

There is very little American machinery of any kind used in this district on farms.

The farms are very small, averaging perhaps less than 10 acres each; hence the utter impracticability of using reapers, mowers, thrashers, horse-rakes, &c.

The little farms of the district are in a very high state of cultivation, but as a rule only the most primitive of agricultural implements are used.

The farmers seem fixed to their methods, and past efforts to introduce improved machinery have met with poor results and often financial loss.

Some of the larger farmers have more or less American machinery on their farms, but they seldom buy direct from the United States, as German and sometimes Swiss factories can imitate our implements and machinery, and undersell us as a matter of course.

HOW TO INTRODUCE AMERICAN MACHINERY.

I am free to say that I know of no way by which American-made machinery and implements can be introduced here on a scale that would be of importance or profitable. There are no exclusive dealers in American implements and machinery here, nor do I believe that such could profitably sustain themselves.

A business could only be done by having practical Swiss agents on the spot, and then all machinery, &c., would have to be furnished to these agents on commission.

If our machinery is to get a real profitable foothold here, it must be by way of Germany, for the reason that Switzerland, having no seaport and being far in the interior of Europe, buys, comparatively, little from the United States direct, but can draw from Germany most articles that suit her trade, and, as before remarked, mostly in the shape of good imitations.

Besides this, the German manufacturer, knowing Swiss and German methods, can more easily adapt his implements to the peculiar notions of the farmers of the two countries.

I make no reference to the small agricultural houses that keep an assortment of American, German, English, and French implements on sale.

The implements are mostly kept on commission, and as the proprietors of the establishment divide their attention between hundreds of articles from different countries, it cannot be expected that any great success could attend their efforts.

I may add that in the past few years I have distributed hundreds of circulars, sent me by American manufacturers of agricultural machinery, household implements, &c., without any perceptible advantage to the manufacturers.

I have delayed writing on the subject in the hope of gaining more encouraging information, but observation and conversation with dealers leads me to think that there is no great, or immediate, or profitable demand in this district for American agricultural machinery. The time may come when Swiss farmers will see the superiority of our farming implements; they don't see it now, or if they do, do not profit by their observation.

S. A. M. BYERS,
Consul.

UNITED STATES CONSULATE,
Zurich, June 27, 1884.

THE AZORES.

REPORT BY CONSUL DABNEY, OF FAYAL.

I regret to say that no agricultural machinery worthy of notice is imported into these islands, for the reason that farmers yet cling to the old style.

S. W. DABNEY,
Consul.

UNITED STATES CONSULATE,
Fayal, Azores, June 16, 1884.

SPAIN.

REPORT BY CONSUL-GENERAL REED, OF MADRID.

I had the honor to receive, on the 11th of April last, Department circular dated the 20th of February, requesting certain information in regard to the use in Spain of agricultural implements, machinery, &c.

Since its receipt I have made efforts from time to time, as my other official duties would permit, to obtain the necessary information upon the subject, and in these efforts I have been greatly assisted by Mr. David B. Parsons, of the firm of Parsons & Graepel,* extensive importers and sellers of agricultural implements and machinery of all kinds. Mr. Parsons, who is an American citizen and who established his house at Madrid twenty-two years ago, has had occasion to visit every part of Spain in connection with his business, and the information which he has kindly furnished me may therefore be relied upon.

I have thought proper to make my report general, availing myself of the information contained in such of the reports as I have received upon the subject from our consuls in the Peninsula, of the information furnished me by Mr. Parsons, and of that obtained by my personal efforts and by my long residence in Spain.

EXTENT AND DIVISION OF TERRITORY.

The territorial extent of Spain, including the Balearic and Canary Islands, is given at 195,774 square miles, of which it is estimated, in so far as the Peninsula is concerned, that about 53 per cent. is under cultivation. There are no official reports showing the division of the lands under cultivation, but with very few exceptions it may be safely stated that they are divided into comparatively small farms; indeed, I might almost say, patches. There are but a very few large land-owners and farmers, and these are almost, if not quite, confined to Old Castile and Andalusia. Even in Old Castile, the principal grain-growing district of the Peninsula, the greater part of the land is divided into small patches and owned and cultivated by different persons. It is not unusual, however, for one person to own and cultivate several of these patches, but strange as it may appear, they are often separated one from the other at distances ranging from half a mile to several leagues. These patches are,

*Illustrated catalogues issued, in Spanish, of course, by Messrs Parsons & Graepel accompanied the report from Consul-General Reed.

generally speaking, too small and too far apart to allow the use of improved agricultural implements, especially of reaping and threshing machines, with advantage. If such were the case in the United States, the owners would endeavor by trade or otherwise to get their land together. But here such an idea does not appear to have entered the mind of the owners or cultivators. They seem to be content to lose several hours each day in going from one patch to another. Time with them does not appear to be money.

SOIL AND PRODUCTS.

Andalusia, La Mancha, Estremadura, and Old Castile comprise the principal agricultural districts of the Peninsula.

In Andalusia the soil is generally heavy, and the products are wheat, barley, olives, oranges, and grapes. In the Malaga district sugar-cane is grown with some profit, and in various parts of Andalusia sugar-beet is cultivated, but with doubtful results. In La Mancha the soil is medium, and wheat was grown in former years to a considerable extent, but of late the cultivation of the vine seems to have supplanted that of wheat, and gives promise of becoming one of the largest wine-producing districts, not only of Spain, but of the world. The soil of Estremadura is more heavy than that of La Mancha, and wheat is grown in large quantities, but of inferior quality. Old Castile, as already stated, is the principal grain-producing district in the Peninsula. The soil in La Tierra de Campas, with Palencia as its center, is very heavy. In the rest of Old Castile the soil is medium. But the enemy to the farmers in Old Castile is the drought and frosts in the late spring, owing, no doubt, to the scarcity of trees or forests. The soil of the provinces of Valencia and Murcia is perhaps the richest of all Spain, and they are, therefore, especially Valencia, rightly called the "garden of Spain." But, as is already known, the soil is chiefly dedicated to the production of early vegetables, which find a ready market at Madrid, Paris, and London.

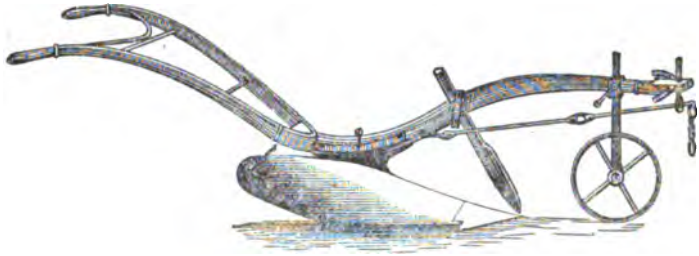
AGRICULTURAL CONDITION.

The agricultural condition of the soil is more or less dependent upon the amount of fertilizers used, and the extent to which irrigation is applied. Irrigation is absolutely necessary to insure good crops. And in the provinces of Valencia and Murcia, where irrigation is perhaps more general, as many as three crops are grown during the same year. The crops are raised in rotation and in the same field, the succeeding crop being 3 or 4 inches above the surface while the preceding crop is being harvested. Irrigated land is rented in those provinces at $200 per hectare (about 2½ acres), while unirrigated land along by its side only rents for $3 per hectare.

MODE OF CULTIVATION.

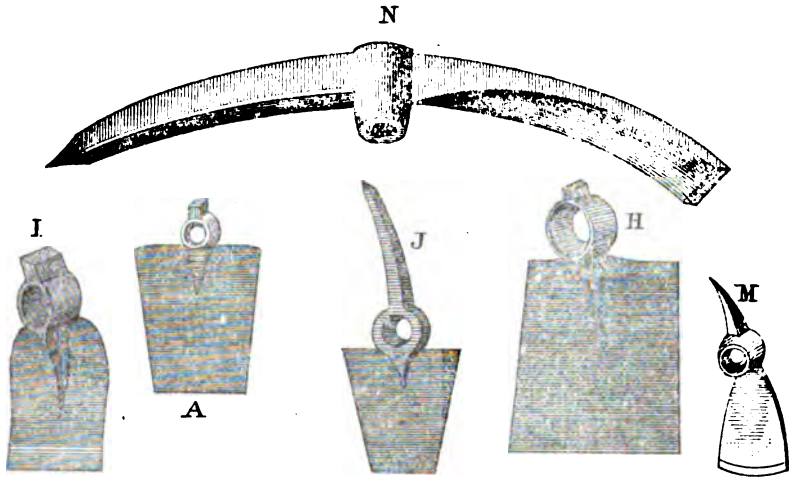
The general mode of cultivation in all parts of the peninsula is still rather primitive, and the implements employed are mostly constructed in the country and are rough and uncouth in manufacture. The plow in general use is made of wood and iron, with one handle. It is very similar in shape to the old Roman plow, and is so constructed as not to allow it to enter the soil to any depth; in fact, it merely skims the surface. It has no mold-board, and therefore does not turn over the earth as our plows do, and instead of leaving the surface smooth and even leaves it in ridges. Mr. Parsons (to whom I have already referred) in-

vented a plow some years ago which he thought the farmers might fancy, but it met with comparatively little success. Yet more attention of late is being paid to the plow, and the one a cut of which I inclose is being sold to some extent.



IMPLEMENTS EMPLOYED.

The "azadon" is employed to a great extent. It is really the tool of the country. It fills the functions of the spade, the hoe, and the shovel. It is very heavy and strong, and is constructed (generally of steel) in various forms to suit the soil and the kind of cultivation in the locality where it is to be used. I inclose a cut of this tool. It is imported from



AZADONS.—A, most in use; N, much used.

England, France, and Germany to some extent, but it is of inferior quality and meets with a limited sale, those of Spanish manufacture being preferred. All other farming implements are of a generally primitive character, but with patience and perseverance they may, in time, be substituted by the more modern.

ADVANCED AGRICULTURAL APPLIANCES.

It will already have been seen that advanced appliances in agriculture have not as yet been adopted to any great extent in Spain. This is owing in no little measure to the uncertainty of obtaining a good

crop, as in a country where protracted droughts or spring frosts are so liable to occur that the farmers cannot count on a good crop more than once in every three years, they can hardly be expected to employ their comparatively small capital in what they consider expensive cultivation. They look upon all advanced appliances as expensive, but they do not seem to take into consideration the fact that by the use of them, and by the proper cultivation of their lands, the products thereof would be considerably increased. Hence it is that the implements generally used are of primitive and cheap construction, and that machinery, up to the present time, is comparatively little employed.

FOREIGN MACHINERY IN SPAIN.

Yet foreign machinery has been adopted to some extent. For instance, a considerable number of reapers have of late years been sold. They are mostly of English manufacture, they seeming to be preferred to the American on account of being stronger and the portions liable to break being constructed of wrought iron. A very few steam thrashing machines, of from four to twelve horse-power, have also been sold. These machines are very complete in their operation, leaving the grain thoroughly clean and put up in sacks, and the straw chopped and well bruised. This straw takes the place of hay for feeding purposes. These machines are of English manufacture, and cost, including the engine, delivered at the seaports, from $1,600 to $3,500 each. They are, of course, too expensive for the smaller class of farmers, and the sale of them is, therefore, very limited. I will again refer to the subject in my "conclusions and recommendations."

AMERICAN MANUFACTURES COMPARED WITH OTHERS.

American agricultural implements and machinery far exceed in finish, lightness, and neatness those of any other country, and have been introduced into Spain to some extent. A considerable number of American reapers have been sold, but for the reason already stated those of English manufacture are preferred. The wind-mill, which is extensively used throughout the Peninsula, is almost always of American manufacture. American pumps are also extensively used, and I am happy to state that the neatness of finish of our agricultural implements and lightness of draught of our reapers, of which we particularly pride ourselves, is beginning to be appreciated by the Spanish farmers. The old idea that to be useful and durable the implement or machine must contain a large amount of wood and metal is gradually disappearing.

HOW MANUFACTURES ARE INTRODUCED AND PLACED ON THE MARKET.

The manufactures of the several countries are generally introduced and placed on the market through houses at Madrid, and at other of the larger cities. These houses have their agents in the country, who, on taking orders, are supplied from headquarters. Many of the English manufacturers, however, send out special agents who travel all over the Peninsula and visit the farmer at his home.

BEST MANNER OF INTRODUCTION.

The best manner to introduce and sell American manufactures is through some reliable house at Madrid, Barcelona, or at other of the larger cities. But a "general central depot" should be established for

the supply of all classes of our agricultural implements and machinery. Madrid being the most central point of Spain, it would, in my opinion, be more advantageous to establish the general central depot here than at some seaport. Mr. Parsons, of this city (of the firm of Parsons & Graepel), an American gentleman, who, as already stated, has been established here twenty-two years in the introduction and sale of agricultural implements and machinery of all kinds, and who, besides being most respectable and responsible, is naturally, after so many years' experience, thoroughly acquainted with the language, business habits, and customs of the country, is willing, in connection with his present house, to take charge of a general central depot. He has agents in all parts of the Peninsula, and in this way could easily establish branch depots if found necessary. The success in the sale of American manufactures, as we are so far away, will depend in a great measure on always having a supply on hand. The Spanish farmer always waits until the last moment before giving his order. Hence it will be seen how important it is to always have a stock on hand. Another and important element will also be necessary, viz, credit. A great majority of the Spanish farmers are comparatively poor; they are entirely dependent upon their crops, and cannot therefore always pay cash. But they are honest and hard-working people, and can be trusted to pay. Many of the English manufacturers allow their agents to give long credit (in some instances two years have been given), and they have not suffered thereby. But the question of credit can be easily arranged between the agent and the purchaser.

BUSINESS HABITS, SYSTEMS, ETC.

Much might be said on the peculiarities of the business habits and systems among agriculturists as well as among the people resident in towns and cities, but I will limit myself to saying that the farmers, as well as the people in the towns and cities, are, generally speaking, easy and free-going people. The farmer does not allow himself to worry over his crops. If they are good he is contented and happy; if they are poor or only a half crop, he gracefully submits to his fate and hopes for better luck the next year. As already stated, the farmer is a hard-working man but he takes his time and does his work in his own way, and the result is that, although he works as many if not more hours than a farmer with us, he accomplishes only about half as much. The Spanish farmer does not go at his work with that determination which characterizes the farmer in the United States. As already remarked, he prefers to take his time and do his work in his own way. But of the honesty of the Spanish farmer there can be no doubt. His word can always be relied upon. As to the merchants and other business men in the towns and cities, they are, generally speaking, honest and reliable, and can be trusted to meet their obligations, whether financial or otherwise. But like the farmer they never appear to be in a hurry in their every-day business life. They prefer to take matters easy rather than to hurry or worry over them.

SYSTEM OF PURCHASES.

Purchases are generally made on time, ranging from thirty to ninety days, in so far as the merchants are concerned. A much longer time, when necessary, is allowed by them to the farmer, and, if so desired, which is not unusual, he is allowed to pay one-third cash, and the balance in installments at fixed dates.

HANDLING MANUFACTURES FROM TIME OF LANDING UNTIL IN POSSESSION OF THE FARMER.

Agricultural implements and machinery are generally imported by houses engaged in the business. For instance, the house of Messrs. Parsons & Graepel, of Madrid, is largely engaged in the importation and sale of foreign agricultural implements and machinery of all kinds. This house has its agents in the provinces. Its depot is established here, and on the receipt of an order from the provinces it is at once supplied and forwarded. The house also exhibits its articles at the fairs of the larger cities, and when these articles are sold on commission it is customary for the manufacturers to allow a part or the whole of the expense incurred by it at such fairs.

HOW AGRICULTURAL IMPLEMENTS ARE IMPORTED.

Such manufactures as are brought from the United States usually come via England. This is, as will at once be seen, a great drawback to our manufactures, and what is especially desired is direct and regular steam communication between the principal Spanish ports and the United States. To be sure, there are occasional steamers and sailing vessels from Cadiz, Malaga, Barcelona, and other ports to New York, and *vice versa*, but this is not sufficient. No special advantage is afforded to any foreign country over another, excepting such countries as enjoy the benefits of the most favored-nation clause, and the distinction made in favor of European nations in respect to harbor fees, as will be seen later on.

TASTES OF THE FARMERS.

The tastes of the Spanish farmer in regard to machinery, tools, and implements is, to our manner of thinking, still somewhat crude. But, as I have already had occasion to remark, the farmers are beginning to appreciate neatness of finish, stylish make-up, and lightness of draught, &c.

HOW MANUFACTURES SHOULD BE FINISHED.

In order to sell (for the present at least) our manufactures in Spain it is necessary to cater, as England does, to the tastes of the farmer and others. To do this the manufactures must have all the main requisites of strength. They must be thoroughly made and of the best material, and combine both neatness of finish and durability; and as the climate is hot and dry, especial care should be taken to use thoroughly seasoned wood when this material forms the principal part of the implement.

NAME, PLACE OF MANUFACTURE, LABELS, ILLUSTRATED CATALOGUES, ETC.

It is not necessary to have the name of the manufacturer or place of manufacture on the implements or machinery. Those of foreign manufacture generally bear the name of the house selling them in Spain. This is done in order to overcome any prejudice the farmer may have against foreign manufactures. But it is particularly desirable (in fact absolutely necessary) that the manufacturers or their representative in Spain should issue illustrated catalogues for distribution. It is also

necessary that these catalogues should be printed in the Spanish language and give the name and address of the representative in Spain.

EFFORTS OF OTHER COUNTRIES FOR THE INTRODUCTION OF MACHINERY.

The manufacturers of France, Germany, Belgium, and particularly England, have for years made strenuous efforts to introduce and sell their manufactures in Spain. They have, especially those of England, met with some success, but not with that success which their efforts would seem to justify. Still they have succeeded sufficiently to encourage them to continue their efforts with the hope of building up a more profitable trade in the future.

FIRMS ENGAGED IN IMPORTATION AND SALE OF AGRICULTURAL IMPLEMENTS AND MACHINERY.

There are two firms at Madrid engaged in the importation and sale of agricultural implements and machinery, viz, Messrs. Parsons & Graepel, Calle de la Montera, No. 29, and Messrs. Rio, Fraile & Co., No. 32, Tragineros.

The firm of Messrs. Parsons & Graepel, in many ways, would seem to be the best adapted for the introduction of American manufactures, principally on account of its being able to correspond in the English language, Mr. Parsons being an American. The firm has large business connections with foreign manufacturers, especially with those of England. It also has quite extensive business relations with the manufacturers of the United States, and the introduction and sale of our manufactures in Spain, thus far, is due to Mr. Parsons' hard work and perseverance more than to any other cause. The firm is exclusively dedicated to the importation and sale of agricultural implements and machinery of all kinds.

FIRMS WILLING TO SELL AMERICAN AGRICULTURAL IMPLEMENTS, ETC.

The firm of Messrs. Parsons & Graepel, of Madrid, as already stated, is engaged in the sale of American agricultural implements and machinery, &c. This firm, which I cannot too highly recommend, is willing to act as the representative of such manufacturers of the United States as may desire its services.

At Barcelona, according to Consul Scheuch's report hereto annexed, Messrs. Reck & Rinsch, Patberg & Co., and Mr. Julius G. Neville, would probably be willing to act as agents for American manufacturers; and at Malaga, according to Consul Marston's report, also hereto annexed, Messrs. Edward Loring, William E. Dunn, Domingo Orueta, and M. Huelin & Co., are willing to act as such agents.

EXPENSES OF IMPORTATION, TARIFFS, CHARGES, ETC.

As I have already stated, nearly if not quite all of our manufactures are brought to Spain via England. They come in steamers direct to Lisbon, Portugal, or to some Spanish port, and pay freight at the rate of 12*s.* 6*d.* (about $3.03) per ton, weight or measure at ship's option. Manufactures for Madrid are generally brought via Lisbon and Santander per steamer, and thence to Madrid per rail. The freight from Santander here is at the rate of $13 per ton; from Lisbon here it is about the same.

The following table, prepared from the tariff now in force, will show the duties on agricultural machinery, &c.:

Articles.	Unit.	Without treaty.	With treaty.
	Kilograms.	*Pesetas.*	*Pesetas.*
Agricultural machinery	100	1 00	96
Iron implements	100	24 00	19 84
Motive machines (engines)	100	2 50	2 40

Besides the duties above mentioned, the manufactures from European nations, whether included in commercial treaties or not, pay 20 per cent. per 1,000 kilograms as harbor fees, while those proceeding from the United States pay 50 per cent. per 1,000 kilograms.

By the above table it will be seen that countries having commercial treaties with Spain, or the benefit of the most favored nation clause, have, in so far as duties are concerned, a very slight advantage over the United States. It will also have been remarked that the manufactures of European nations, whether they have commercial treaties or not, pay much less harbor fees than those of the United States.

RECOMMENDATIONS.

Notwithstanding the fact that Spain is still far behind the age in the implements and machinery used in agriculture, some advancement has been made in late years. The Government has, within the last few years, established at Madrid an agricultural college, where agriculture is taught in all its phases. To this college is attached a large tract of land where improved stock is kept, and where agricultural exhibitions and trials of implements and machinery take place. One of these exhibitions and trials was opened on the 26th May last and continued four days. It was a trial principally of plows, harrows, and cultivators. Prizes were also offered for the best plowman, cultivator, and harrower. Since then two or three trials of reaper and thrashing machines have taken place on the grounds connected with the college. One of these trials took place yesterday, and the following translation of an article published by the *Correspondencia* of this city, will give the result:

Another trial of the magnificent North American reapers belonging to the Agricultural Institute of Alfonso XII took place yesterday in the experimental grounds attached to said institute. These machines of truly admirable invention reap with perfection, gather the grain in bundles, and bind them with a small wire, twisting and cutting it off and throwing the bundles, perfectly bound, to one side of the machine. All this is done with such marvelous regularity, promptness, and perfection that it is a pleasure to see it, and, with the use of a pair of horses and a driver, it does in a few moments, and with the greatest proficiency and accuracy, more work than many men could do in a day.

The royal commissary, Count de Guaqui, the professors of the institute, many priests, and a large number of other persons attended the trial.

From this field they passed to another, where the newly perfected thrasher was in operation, which received and thrashed the bundles with marvelous rapidity, leaving the grain separated into four classes, each class of which fell into its respective sack; and the straw was also converted into four classes, viz, chaff, refuse straw, short and fine straw, and longer and bruised straw.

It would truly be well to extend to model farms and to other cultivated lands the agricultural benefits of such proficient and laudable inventions.*

* The reapers are of the McCormick and Aultman manufacture.

I have mentioned the agricultural college merely to show that the Government is also taking an interest in agriculture, and, as will have been seen by the above mentioned article of the *Correspondencia* is doing much towards securing the introduction and adoption of the later or more advanced appliances. This fact, together with the growing appreciation of the farmers, leads me to believe that the appliances will at no distant day be generally adopted. A large market for foreign manufactured agricultural implements and machinery of all kinds will, therefore, be opened; and why should not the manufacturers of the United States have their share, if not the monopoly, of that market? They can manufacture these articles more cheaply than the manufacturers of England, France, Germany, and Belgium, and England, which now has a greater sale of these articles than any other country, enjoys no special privileges over the United States, unless in the way of transportation and harbor fees. She pays the same duty on this class of manufactures as those proceeding from the United States. Our manufacturers have, therefore, only to overcome the additional expense of transportation and of harbor fees. This they can probably do through the cheapness with which they can manufacture their articles. I therefore see no reason why our manufacturers should not successfully compete with those of England, and especially so if they will adopt the system I have already referred to, viz, establish a general central depot where a stock of their manufactures may always be found, and employ an active and intelligent person at the head of the same, a person who understands both the language and business customs of the country; and, further, if they (our manufacturers) will cater (as do those of England) to the tastes and fancies of the farmers at all times, manufacturing their articles, as time goes on, in accordance with the advanced ideas of the farmers. Of this advancement and the wants of the market they could easily be kept posted by their general agent.

At the present time, for instance, it would be well for our reaper manufacturers to construct a reaper somewhat stronger (at least in appearance) than the ones now sent to this market, and to employ wrought iron in the construction of those parts more liable to break, as is done by the English manufacturer; and, further, if a good, strong string-binder (as it is difficult to find men to bind after a reaper), simple in its mechanism and cheap in price, could be constructed, it would meet with a very ready sale, as such a reaper is very much needed and sought after throughout the Peninsula. Those possessed by the agricultural college already referred to, and by some of the large farmers, while perfect in their work, are too expensive and complicated for the ordinary farmer.

Something might also be done in thrashing machines, as the large steam-machines of English manufacture already referred to are too expensive for the smaller class of farmers. If a thrasher could be constructed requiring only five or six mules to drive it, simple in mechanism and combining both cheapness and the necessary force to bruise the straw, it would meet with a large sale.

Large winnowing machines, to be driven by mules, for separating and cleaning the grain, would also be very acceptable; but the difficulty to be overcome in such a machine is that of separating the grain from the large bulk of chopped and bruised straw with sufficient rapidity. Our wind-mills already meet with a greater sale than those of any other country, and no change in their construction appears necessary at the present time.

Spain, although behind the age, is, as I have already remarked,

gradually advancing. The ways and customs of the Moors are consequently disappearing and are being substituted by the more modern customs of the world. With this advancement improvements in the way of agriculture and machinery of all kinds must naturally follow. A market for these articles will thus be opened to the world, and, in my opinion, if our manufacturers keep pace with the advancement, there is no reason why they should not obtain an equal share, if not a monopoly, of this promising market.

DWIGHT T. REED,
Consul-General.

UNITED STATES CONSULATE,
Madrid, July 22, 1884.

CATALONIA.

REPORT BY CONSUL SCHEUCH, OF BARCELONA.

In answer to circular of February last, relating to agricultural machinery, I now beg to submit the following short report. For most of my information on the subject I am indebted to Messrs. Reck & Rinsch, Patberg & Co., and Mr. Julius G. Neville, all representing foreign manufacturers of machinery of all kinds, the latter-named gentleman being more especially connected for years with the sale of agricultural machines in England, Germany, and Spain. During my ten years' consular service here I have been frequently addressed by our manufacturers to forward the names of first-class firms here to correspond with and act as agents, and have received hundreds of books, pamphlets, and cuts for distribution, which I have promptly done; but I am sorry to say little benefit has seemingly been realized.

CONDITION OF AGRICULTURE IN CATALONIA.

This consular district, Catalonia, is a manufacturing one, and not a grain-growing one, like Andalusia, Valencia, and other southern provinces raising only wine, olives, and some almonds; nevertheless, Barcelona being the first commercial city and port of the Spanish Peninsula, all principal manufacturers, home and foreign, have their agents and representatives here, as also their respective warehouses, and goods are shipped from here to all parts of Spain. It is well known that Spaniards in general, but country people, farmers particularly, are behind the present times of improvement in labor-saving machinery, and the greater part will obstinately desist in using and accepting the modern tools and agricultural machines even when shown the superiority. But in late years the many commercial agents running through the country, mostly English, Germans, and Belgians, are convincing the people of their folly, and no doubt the introduction and sale of modern machinery of all kinds is daily gaining.

AMERICAN MANUFACTURERS AT FAULT.

The principal reason, I find, of the export of agricultural implements from the States being small is that our manufacturers do not keep stock in the various European countries. The distance being so great, it is necessary they should either appoint one general agent for Europe, or, better, one agent in the various European countries, and supply him with a good stock of such machines, &c., as will command a ready sale.

This has been done to advantage in London and Hamburg. Agents having orders for agricultural machinery will naturally purchase them in Europe in preference; firstly, because they can be obtained in a few weeks, and, secondly, they can be imported with less risks. So long, therefore, as our manufacturers do not make an effort to introduce and effect sales of their machines by the appointment of efficient representatives, and enable them to effect sales from stock, the trade will continue on a small scale against English, German, and other competition.

FOREIGN MACHINES WANTED.

It is needless to say that such agents should thoroughly know their business, and not induce makers to consign machines which do not fulfill the requirements of the respective countries into which they are sent. As a rule, however, most of the implements employed at home are salable in Europe; and with regard to Spain, efforts have been made by the Agricultural Association of Spain, fully alive to the importance of diffusing a knowledge of the advances made in the manufacture of field implements, to invite foreign makers to send their machines for exhibition, and I now inclose a circular just received, thinking it of interest, inasmuch as it specifies the various implements used in the cultivation of the soil, and which in the perfected state in which they are constructed in the States, England, and Germany, are almost unknown in this country.

FOREIGN MACHINES IN USE.

There are already, as I understand, six steam plowing-machines imported, and the demand is increasing. They have been supplied by Messrs. Fowler and others.

Of steam thrashing machines, I hear some fifty sets have been imported, and the demand is also increasing. Thrashing-machines should be supplied with straw-bruising apparatus, so as to make the straw a palatable food for horses and mules. Of reaping and mowing machines several hundred are already in use, principally supplied, I understand, by Hornsby and by Samuelson, who both have their agents in Spain and can supply from stock. This is the reason, no doubt, why Messrs. Wood, McCormick, and others of our manufacturers do little in these machines with Spain.

Olive and wine presses are largely purchased both from English, German, and Spanish manufacturers; of those used at present in this country I inclose a few illustrations. Corn-grinding mills and American wind-mills would find a large and ready sale; also hand and power pumping machinery of every description. American pattern pumps are largely manufactured in Spain, and as quick delivery is generally an object, Spanish and English manufacturers will have the advantage over our makers as long as they do not keep a stock in this country.

SYSTEM OF PURCHASE.

As a rule, purchasers of agricultural machinery are honest and reliable people, and the terms of payments are mostly arranged for one-third with the order, one-third on delivery, and the rest three or four months later. Agricultural machinery should be sent direct from the States to Spain in quantities, so as to decrease expense. Agricultural machinery pays an ad valorem duty of 1 per cent.

FRED'K H. SCHEUCH,
Consul.

UNITED STATES CONSULATE,
Barcelona, May 12, 1884.

DENIA.

REPORT BY CONSUL ARQUIMBAU.

In answer to your circular dated February 20, in reference to agricultural implements, I beg to state that the information I can produce from this district is of very little importance and perhaps of no account.

The extent of the territory embraced in this report consists of about 150,000 anegas of principally cultivated grape-vine lands, with about the same proportion of bare mountainous and small portion of cultivated land devoted to culture of grain and vegetables, in fact, the bulk being taken for grape-growing. This district embraces 120 towns and cities, with a population of from 1,000 to 10,000 inhabitants each.

The land is well distributed, and among many hands, in farms of 20 to 30 anegas, being cultivated by the owners.

No implements, machinery, or tools of any kind are imported into this district from foreign countries.

The plow, hoe, and pruning-knife are the only and necessary articles in use; are made, supplied, and sold by the village blacksmith in each and every town; no improvements have been made upon the same for many years.

As there are no established hardwaremen dealing in specialties in many of these towns, I cannot supply you with the names of firms dealing in the same.

JOHN D. ARQUIMBAU,
Consul.

UNITED STATES CONSULATE,
Denia, April 16, 1884.

GALICIA.

REPORT BY CONSUL CARRICARTE, OF CORUNNA.

In reply to the circular from the Department of State dated February 20, 1884, relating to agricultural machinery, I have the honor to forward the following report:

In the province of Galicia large farms are entirely unknown, the arable land being nearly invariably divided into small plots, so that a field of even 4 or 5 acres of cultivated soil is seldom or ever found to be worked by one farmer. The soil is varied and of almost every quality, and near the coast of a very rocky description, thus causing the cultivation to be of a difficult nature and on the smallest scale.

The agricultural implements are of the most primitive description, and generally made by the native blacksmiths, of the most common materials, and in the roughest manner.

The greater portion of the cultivators of the soil live in miserable hovels and in extreme poverty; the latter, combined with the small quantity of land rented by them, render the introduction of improved or foreign machinery almost an impossibility. The principal crops consist of maize, wheat and potatoes, oats, rye, or turnips being sown on the wheat stubble after harvest as fodder for the cattle in winter. The quantity of maize produced is not, by a great deal, sufficient for the demand, and supplies are annually imported from the United States, generally via Liverpool or Plymouth, England, to the ports of Corunna, Ferrol, and Vigo, Spain.

J. DE CARRICARTE,
Consul.

UNITED STATES CONSULATE,
Corunna, 26 *April*, 1884.

MALAGA.

REPORT BY CONSUL MARSTON.

AREA AND PRODUCTS.

The province of Malaga contains an area estimated at 1,540 square miles; 75 per cent. of this is considered to be cultivated; two-thirds of that under cultivation is divided into small farms, and the remaining one-third into large farms.

The principal yield of this province is fruit of almost every variety consistent with the climate. In the immediate vicinity of Malaga the cultivated land is almost level, a large portion of which is constantly used for vegetables. At a farther distance sugar-cane, orange, lemon, and other fruit trees, together with grape vines, are the principal productions. Still farther from Malaga the soil becomes dry, rough, and hilly, the level land of which is principally used for grain. Still further from Malaga the soil becomes more hard and mountainous, upon which will be found the almond, fig, chestnut, some olive, acorn, and other trees, as well as large quantities of cactus, bearing the hijos chumbos, or prickly pear, upon which in season great numbers of the poorer classes subsist.

The high mountains in this province produce mostly grape vines, together with a slight pasture for goats, also a limited amount of esparto grass, which, after being dried and cured, is used for the manufacture of matting, baskets, shoes, or sandals, for the laboring classes.

IMPLEMENTS OF AGRICULTURE IN USE.

The implements used in this province are of the most primitive character, a heavy iron share, or in some cases a large iron nail, tooth, or bolt, being inserted in a heavy pole is used by many as a plow (the same used by the Moors 400 years ago), with rough picks, sickles, weed-hooks, and other implements, made in the country, devoid of all pretension to finish. These old-fashioned implements are used principally by the farmers of this province in preference to all improvements, and like many other traditional customs it is very difficult to change them.

HOW FARMERS WORK IN MALAGA.

I have been living in Spain nearly four years, and I have never seen a Spaniard use a spade or shovel. He uses a small round esparto basket, holding about one peck, laying the same on its side between and holding it in place with his feet, and with a hoe he rakes the dirt or soil into it, then laying down his hoe he carries the basketful of earth to where it is required. One American workman with a shovel and wheelbarrow can do more work in one day than ten Spaniards with their baskets and hoes. A gentleman in Malaga, determined at one time to change the custom upon his farm, purchased in England the requisite number of shovels and wheelbarrows. He gave them to the Spanish workmen and demonstrated how to use them, but returning an hour afterwards found that the new appliances had all been thrown aside and that the old hoe and basket had gone to work again; and the men simply stated that if they were compelled to use a shovel and wheelbarrow they would go elsewhere for work.

INTRODUCING MACHINERY INTO MALAGA.

An American in London wrote me asking me to assist him in introducing a machine into Malaga for making boxes for raisins, lemons, oranges, almonds, &c. The invention had been in successful operation elsewhere. I interviewed some of the large Spanish houses, and I was plainly told that the working classes would not allow a machine of that kind to exist in Malaga, and also that if any one put a machine of that kind in operation in Malaga he would live in constant danger.

In regard to machinery imported from foreign countries but few farmers interest themselves, yet there are some importations, almost all of which come from England. The kinds imported are the thrashing and winnowing machines. Besides these there are a variety of engines used for pumping water for irrigating purposes, nearly all of which come from England, and Spaniards like them on account of their apparent strength (being rough and uncouth compared with American manufactures), their easy terms of payment, and the assiduous efforts made by the traveling agents of English firms for their introduction.

American agricultural machinery might be introduced into Spain, and would finally be appreciated to a greater extent than that produced by any other nation, but it will take time and perseverance. It is frequently the custom in England to use as much wood for a table as would be required, almost, for a whole set of furniture made in the United States. This principle is good for railway bridges, where the lives of passengers are at risk, but in agricultural machinery, implements, and household furniture it is not essential for durability and certainly not for appearance. For these reasons English machinery has the preference in Spain over all other kinds manufactured. Again, there is constantly direct steam communication between the different English ports and Malaga, and through freights at reasonable rates can at all times be procured. There are no branch establishments here representing foreign manufacturers of machinery; all sales are made through traveling agents sent out from the home firm, who are devoted in the prosecution of their labors, and who usually effect sales to farmers of small means; a small payment is made in advance, and the balance is collected at the reasonable convenience of the purchaser. All English firms provide also an immense amount of illustrated circulars, printed in the Spanish language, labels, and also samples of all the tools which it is their desire to introduce. Again, liberal commissions are allowed on all sales, and almost all English manufacturers, in place of making use of appointed agents, residents of Malaga, prefer to send their own representatives, who call frequently and visit the wholesale dealers, and who are always looking for new purchasers.

It is worthy of note that many of the farmers in Andalusia are merely leasing instead of owning the land they occupy; therefore their only aim is to abstract everything from the soil without making any attempt to benefit or protect it. Some of those farmers who live near the cities, towns, or villages by degrees are learning the advantages of improved agricultural machinery, and in time it will be much easier to effect sales; but in Spain the process is very slow and at all times uncertain.

IMPORTERS OF AGRICULTURAL MACHINERY.

The following are the names of some of the principal capitalists and land-owners living in the province and city of Malaga who import English agricultural machinery and implements direct, viz: Messrs. Hera-

dia & Bros., Wm. Heulin & Son, Briales Bros., Frederick Gross & Co., Hijos de M. Larios, F. N. Casado & Co., J. Soliva Bresca, Antonio Campos Garín, Vicente de la Vega, Pedro Ma. Alvarez, Francisco Mitjana and José Alarcon Lijan.

The importers of agricultural machinery, as agents, are Messrs. Mathias Heulin & Co. and William E. Dunn.

The proprietors of wholesale and retail hardware stores are Messrs. Loubere, Goux & Tamboury, Casenave Mirasson & Ychante, and Antonio Baranco.

The names of reliable persons and firms who will be willing to act as agents for the sale of American agricultural machinery, implements, tools, &c., are Messrs. Edward Loring, William E. Dunn, Domingo Orueta, and M. Heulin & Co.

FREIGHTS AND DUTIES.

Machinery, as well as all other iron implements and tools for agricultural purposes, pay an average freight of 12*s.* 6*d.* per ton, per direct steamers proceeding from England or other European nations.

Custom-house duties on machinery, iron implements, and tools for agricultural purposes pay as follows, viz:

	Per 100 kilograms, dead weight.
Agricultural machinery and plows	$0 19
Iron implements and tools	3 97
Wood implements and tools (say, handles of shovels, forks, &c.)	3 75
Steam-engines	43

The above are the custom-house duties for importations from countries included in the commercial treaties with Spain.

Those coming from countries not included in commercial treaties with Spain must pay as follows, viz:

	Per 1,000 kilograms, dead weight.
Agricultural machines and plows	$0 20
Agricultural implements and tools	4 80
Agricultural wood implements and tools (say, handles of shovels, forks, &c.)	4 00
Engines	50

Beside custom-house duties above mentioned, goods of any kind from European nations, whether included in commercial treaties or not, must pay as follows, viz: 20 cents per each 1,000 kilograms, dead weight, as harbor fees, and 11½ cents per each 1,000 kilograms, dead weight, as harbor work fees.

Importations from any part of the United States, instead of the above, must pay as follows, viz: 50 cents per each 1,000 kilograms, draught weight, as harbor fees, and 13¾ cents per each 1,000 kilograms, draught weight, as harbor work fees.

THRASHING WHEAT IN MALAGA.

American agricultural machinery, implements and tools may, in the distant future, be purchased and used by the prosperous Spanish farmer, but it must be remembered that the great majority are entirely without the requisite means to purchase them; besides, the average Spaniard is opposed to all changes in the mode of cultivating their farms.

As you pass along the road a few miles from Malaga you will wonder why so many hard circular patches of ground are to be seen every half mile or so; the ring one would suppose to be about 15 to 20 yards across. The first impression is that some circus has been performing there, and

having removed the tent, the ring remains; but upon inquiry you are told that in the harvest season this ring, with its hard, solid, beaten surface, is used for thrashing the grain. The *modus operandi* is as follows, viz: They spread out the sheaves of straw and grain upon this ring, and then by a continued tramping over the same by mares the grain is separated from the straw; the latter being gathered, the wheat or seed remains.

The grain is left until the first windy day, when the farmer takes his shovel, and throwing the seed, say, 3 or 4 feet, from the ground, the wind blows away the chaff and dust. This is the old Moorish custom, and illustrates one of the primitive modes of farming in Andalusia, Spain.

It is considered that for the purpose above mentioned the Andalusia mares are much better than horses or mules. The surface of these rings is as hard as a cemented floor. The animals are shod with a peculiar round shoe, very heavy, arranged with points so as not to crush the grain. Mares are used in preference to horses or mules, as they are considered stronger and at the same time cheaper, and the wilder these animals are the better for the purpose.

H. C. MARSTON,
Consul.

UNITED STATES CONSULATE,
Malaga, Spain, June 12, 1884.

ITALY.

SOUTHEAST SICILY.

REPORT BY CONSUL WOODCOCK, OF CATANIA.

In response to the circular of the Department pertaining to agricultural machinery, of date February 20, 1881, I have the honor to report as follows:

AREA, SOIL, AND PRODUCTS.

The Catania consulate embraces the southeast third of the island of Sicily.

It lies between 56½ and 38 degrees north latitude, and between 11½ and 13 degrees east longitude.

The general trend of the land is upward from the sea-coast to the summit of Ætna. It takes in Ætna, with the rich zone of lava soil that surrounds it.

During the centuries that have elapsed the eruptions of Ætna have flooded with lava a great portion of this district.

Much of this the industrious inhabitants have removed, piling it up into walls, paving with it the roads and streets of their cities, and with it also building their houses and churches. Much of it the elements have disintegrated and pulverized into soil, yet much of it remains a ragged, distorted, blackened mass, a perfect scene of desolation and sterility. The nature of the soil is then disintegrated lava mostly, and is among the most fertile of the globe.

Agriculturally this is the richest part of the island. Cicero declared the valley of the Simeto to be "*uberrima pars Siciliæ.*" In the time of

the great orator Catania was one of the main arteries that supplied "imperial Rome" with grain.

Wheat, rye, barley, oats, in fact all the cereals yield here abundantly. There is no better wheat raised in Europe than grows in this vicinity. On account of the fine price it commands it is mostly exported, and a poorer quality is imported for home consumption. All kinds of vegeables grow in profusion. This is the home of the legume.

Of fruits, those known to the semi-tropical and temperate climates yield abundantly.

In the higher altitudes apples, peaches, pears, plums, cherries, sorbi, &c., of excellent quality are raised. In the lower altitudes the orange, lemon, fig, olive, almond, filbert, and grape abound.

These last named are a specialty, and are the fruits of export. The grapes are manufactured into wines which are principally exported to the different cities of Europe. A large amount of oleaginous seeds (such as hemp, canary, linseed) are raised annually.

FARMS AND POPULATION.

Before the existence of the present Government the lands generally belonged to the priesthood. The farms were then large. The Government took these lands from the Church and sold them to the people. This resulted in a division of the land into smaller farms. The average sized farm contains about one hundred acres.

The population is dense, being about 1,424 to the square mile. Hence the laborers are many and the wages low. The soil, by these cheap laborers (wages about $8 per month), is wrought into a high state of culture with the rudest and most clumsy implements.

AGRICULTURAL IMPLEMENTS IN USE.

The implements used are generally those of the old Roman period. The plow is a rude and primitive thing. The beam is long, with the end fastened to the center of the yoke on the necks of the cattle without chain. The share consists of an arm or stick mortised in the beam and pointed with iron. From the beam extends upwards another arm or stick, which is the handle. This plow simply scratches the surface, without turning over the soil.

The shovels used are of rough material and workmanship. The hoes somewhat resemble those of the Southern plantation of twenty years ago, but are heavier.

The grain is cut with a sickle, or hook, of inferior quality.

It is thrashed or tramped out by the feet of mules. The chaff is winnowed from the grain by a hand machine resembling a large sieve.

WINE-MAKING.

As in the days of the Saviour, the juice of the grape is crushed out by the feet of men. The grapes for this purpose are thrown upon a platform. From ten to twenty men trot around in a circle upon the grapes. The juice runs down into a large tub or vat. In this a man stands wading about in the liquid from his knees to his waist, measuring out the fluid with an earthen vessel.

EFFORTS FOR THE INTRODUCTION OF IMPROVED MACHINERY.

Efforts are being made by certain English manufacturers to introduce their wares. Some success has attended these efforts Generally,

however, implements of modern invention are not used. The introduction of English manufactures is here done through agents.

I acknowledge myself indebted to Prof. Francesco Lornabena for much information relative to the state of Sicilian agriculture. This gentleman is professor of botany in the Royal University of this city. He is the founder and director of the botanical gardens here. He is public-spirited, intensely interested in the improvement of agriculture, and is a man of erudition and fine classical attainments.

He has charge of a piece of ground within the city limits of about ten acres, upon which the Government has erected a storehouse for agricultural implements. In this building I saw a thrashing machine of Italian manufacture; a clumsy imitation (I think) of an English one. Here also I saw plows, harrows, seeders, a fanning-mill, a reaper, a mower, horse-rake, wine-press, &c. The most of these implements bore the English brand.

A portion of the machinery belonged to the professor, the rest to the Government. These implements are loaned to agriculturists by the professor for the period of forty days without charge, the costs of repairs to be paid by them.

Thus he is laboring to induce the farmers to substitute for their primitive implements those of modern invention. He told me that those who tried the machinery were highly pleased, but that the masses were opposed to innovation, and that their prejudices were hard to overcome.

HOW TO INTRODUCE AMERICAN IMPLEMENTS.

He told me that of all the plows he had tried an American one was the best. He could not remember the name of the manufacturer. The professor seemed anxious to have American machinery introduced.

He suggested that the best method of introduction would be to secure about two hundred acres of land outside of the city here, have a warehouse for the implements, and exhibit to the people the superiority of our implements by working them upon this tract. I think a warehouse should be established in the city, and good live Yankee agents should take specimens into the country and test them in the soil of the farmer, and thus induce him to buy.

If the farmer has not ready cash, time (upon proper security) should be given.

It seems to me that this will be the quickest and surest method of introducing our agricultural machinery.

The tools of the mechanics here are as a class much better than the agricultural implements; but they are clumsily made and much inferior to American or English tools. I have seen a few American tools in the hardware stores here, such as hammers, saws, planes, &c. The merchants told me these tools were admitted to be much better, and far more beautiful than those of English, German, and French manufacture, but owing to the higher price sales were not so ready. Of course the irrepressible American sewing-machine is here. I have been told that it is preferred to those of European manufacture. Machinery is imported mostly upon steam vessels. The freight from America, however, would be much cheaper by sail.

To compete with European manufacturers every method should be taken to reduce the cost of implements.

WHAT THE SICILIANS WANT.

The Sicilians have an eye for the beautiful and they greatly admire the fine finish of our tools; still I think (if the cost of manufacture

would be lessened thereby) it would be well to give them less of the beautiful finish, preserving the excellence of their quality. I think also that "compromise implements" similar to, but greatly in advance of theirs, should be made for this people. The English are doing this.

IMPORTERS OF AGRICULTURAL IMPLEMENTS.

The names of the manufacturers, the location of their factories, their circulars, and illustrated catalogues should be printed in Italian and freely circulated among the people. Our sewing-machine manufacturers are doing this. European manufacturers publish their circulars and catalogues in Italian for distribution in this country.

The English, German, and French are laboring to introduce their wares. As yet but little inroad has been made upon the antique and rustic implements of this people.

The following-named persons and firms are engaged in Catania in the sale of machinery, to wit: G. B. Borgetti, piazza dei Martiri; Busattil & Son, via Crocifisso della Buono Monte; Forlivesi & Lomaselli, via Stesieora Etna, 87; Giaffrida Leotta Giovanni, via Gagliana, 7, 9, 11; Santonocito & Lomaselli, via Etna, 196. The last-named firm, Santonocito & Lomaselli, have been and are selling some American wares, such as sewing-machines, printing presses, hay-presses, &c.; they seem to be energetic young men, and I think are good agents. These firms mostly act as agents for English machinery.

Eugene Consoli, No. 112, via Garometro, is a good business man, energetic, and trustworthy. He is desirous of acting as agent for the introduction of American manufactures.

I also suggest Mr. Augustus Peratoner, our worthy vice-consul. He is an agriculturist, is a man of wealth, and will do what he can to introduce our wares.

The consul will gladly respond to manufacturers seeking information and will do what he can to aid them in introducing their goods.

DUTIES.

The duties on the import of machinery are $1.60 per quintal (220.46 pounds).

Our manufacturers here enjoy equal advantages with those of other countries.

ALBERT WOODCOCK,
Consul.

UNITED STATES CONSULATE,
Catania, Italy, June 4, 1884.

TUSCANY.

REPORT BY CONSUL WELSH, OF FLORENCE.

I have the honor now to acknowledge the receipt of the circular dated February 20, 1884, relating to agricultural machinery.

AREA AND SUBDIVISION OF LAND.

From this consulate reports on agriculture and the probable state of the market for the sale of American agricultural implements have, from

time to time, been made, and therefore I am able only to slightly augment the previous reports on the subject forwarded to the Department by my predecessors and myself.

Tuscany proper includes the districts of Arezzo, Siena, Lucca, and Pisa, together with the province of Leghorn and the island of Elba. The territory actually belonging to this consular district has never been clearly defined, and is to me a matter of conjecture. Tuscany lies between latitude 42° 43′ and 44° 13′ Paris meridian north, and longitude 7° 45′ and 10° 1′ Paris meridian east, containing in all about 6,872¾ square miles, as per table appended.

The land in the aforementioned district—viz, Florence, Arezzo, Siena, Lucca, and Pisa—is rich and highly cultivated, but the farms being subdivided, and manual labor so plenty and cheap, improvements in agricultural implements have not excited as much interest as in countries where large tracts of rich land are controlled or farmed by the capitalist. Here subdivision of land, and the profit derived from its produce, almost universally exist. The actual owner gives no personal attention to his land. He lets to one or more, who again underlet, sometimes for money, sometimes for a share of the produce; hence, the population being dense, labor cheap, and the market near at hand, the needful work is done "by hand," and generally with implements of ancient form made in Florence at the Fonderia del Pignone, or at blacksmith shops in the vicinity of the farms.

HOW TO INTRODUCE AMERICAN IMPLEMENTS.

To insure a profitable sale of American agricultural implements, agents of the firms intending such sales should be sent to thoroughly canvass the country, and such agents should have a knowledge of the language and habits of the farmers and sell directly to them. The spirit of "*camorra*" in Italy is such that when a consignment is made (without the owner or agent of owner accompanying) the goods pass from hand to hand, each hand charging a commission, and consequently when an actual sale is made, the proceeds go to the hands through which the articles have passed, leaving no profit or a possible loss to the original owner.

HOW IMPLEMENTS ARE IMPORTED.

The few importations to Tuscany are made by sea, via Leghorn or Genoa; by land, via Modane and the Mont Cenis tunnel, or the St. Gothard tunnel and Chiasso.

The farmers in Tuscany prefer durability and fitness of material and shape, together with reasonable economy in price, for all agricultural implements.

I should advise that on all labels or circulars the names of the manufacturers should be written as said manufacturers may have been in the habit of writing them, whereas the place of manufacture and the description of articles, or the instruction as to the use of said articles, should be written in the language of the country destined to be their employer. To Italians a circular signed "Radice & Stagnino" instead of "Root & Tinker" would look odd, whereas the labor of translating the sense of the circular would cause nine out of ten to throw the circular aside.

IMPORTERS OF MACHINERY.

In appended statement I give the names of firms likely to receive consignments of agricultural implements, but in no case would I advise

such consignments. An agency directed by a competent agent—thoroughly conversant with the people of Tuscany—might be profitably carried on.

COST OF IMPORTATION.

In appended statement I give the cost of importation of agricultural implements. The agricultural implements needed in Tuscany are those used in the cultivation of Indian corn, wheat, rye, oats, barley, the grape, beans, and every description of truck and fancy gardening, as also those used in the care of fruit, olive, and other trees.

WM. L. WELSH,
Consul.

UNITED STATES CONSULATE,
Florence, May 22, 1884.

Statement showing the extent of Tuscan territory.

Division.	Hectar. s.	Square miles.
Florence, Arezzo, Siena, Pisa, and Lucca	1,748,436	6,750¼
Leghorn	9,495	36¾
Islands of Elba and Pianosa	22,169	85¼
Total	1,780,100	6,872¾

Names of firms who import agricultural machinery and implements, and who are engaged in the business of selling the same.

1. Finzi & Bianchelli, Emporio Franco-Italiano, 26 via Panzani, Florence.
2. Malenchini, Ingegnere C., & Co., 25 via Cavour, Florence.
3. Stazione Agraria, 28 via Vittorio Emmanuele, Florence.
4. Vimercali, Ingegnere Prof Guido, 4 via de Benci, Florence.
5. Gazzeri, Ingegnere Icilio, 12 via Saponai, Florence.
6. Gozzini, Carlo, 6 via Calzaioli, Florence.
7. Pinucci, Emilio, 7 via Calzaioli, Florence.
8. Pisa, Salomone, 8 via Condotta, Florence.

VENETIA.

REPORT BY CONSUL NOYES.

AGRICULTURAL SYSTEMS.

However desirable in the interest of progress may be the diffusion of all the appliances for lightening labor and increasing its productiveness, the adoption of such improvements can only succeed completely when the nature and economical situation of a country, as well as the character of its working class, are capable of adapting themselves to the transformation. In all these respects the Venetian territory, in common with the rest of Italy, is but partially prepared for immediate improvement. With an ancient civilization which places it among the most refined and enlightened nations, but which encourage only the learned professions and the arts of luxury, which tend to degrade and depress the tiller of the soil, its age and fixity have only served to render more inveterate

the traditions of ignorance and prejudice, which, with the tenure of property and the received usages of agriculture, contribute to impede the progress of new ideas.

One of the largest of the ancient divisions of Italy, with an area of 23,464 square kilometers, equal to 938,000 acres, and a population of 113 to the square kilometer, equal to 183.6 to square mile, the territory is divided among a multitude of small holders, even the few great estates being mostly farmed by tenants of a few acres, and on these, partly from the extreme poverty of the cultivator, partly from the division of interest with the proprietor, it is always difficult to find the capital for expensive improvements, or, when found, to make its outlay profitable on so small a scale. Add to this that the proprietor rarely lives on or interests himself in the cultivation of the land, that credit is impossible to the small farmer except on terms which make it ruinous, and there hardly remains the possibility of escape from his hereditary existence of penurious delving for the necessities of the day. These conditions vary with the diversities of soil and situation which here succeed each other with a rapidity hardly to be found in any other region of the same extent, a large portion of the area being composed of wild mountain pasture, from which it passes through every variety of surface due to irregular deposition and volcanic disruption, to broad spaces of deep bottom land, only preserved by artificial defenses from the periodical invasions of the river and the sea.

Much of the northern border of the country, great part of the provinces of Udine and Belluno, with large districts of those of Vicenza and Verona, is taken up by the rugged declivities of the Venetian Alps, where cultivation of any kind is restricted to few strips of narrow valley. From the mouths of these valleys and far into the plains below their dejections of sand and rubble, now in straggling ridges, now in fan-shaped cones, widening or displacing their beds at each successive inundation, overlay the soil and render it impracticable for labor. In this transition zone, however, disposed rather in shelves, and in many places with a remarkable evenness of surface almost at the foot of the mountain spurs, are large tracts of the finest upland country, where the most advanced systems of culture would find their application, and where, in fact, their employment is gradually extending itself in spite of the poverty and inveterate prejudices of the rural population, with other obstacles of a more positive kind to retard their progress. Property, though not broken into such infinitesimal morsels as in the valleys higher up, where the little arable land around each mountain village furnishes but scanty garden plots to the inhabitants, is still sufficiently divided to make the grand culture now so frequent in other countries, and particularly in America, a thing unknown here. The few large estates to be found in possession of ancient patrician families, whose proprietors enjoy their revenues in the leisure of the Venetian cities, are mostly leased in the same minute parcels to tenants hardly more capable or more ambitious than the vassals of the glebe of other times, who till the soil with the same patient routine, to content the landlord and keep alive their famished brood.

In the province of Belluno, for instance, the number of proprietors is estimated at rather more than one in three of the whole population; the arable and grazing land has an area of 213,434 hectares of the 316,559 which compose the province, and this area is in the hands of 64,146 owners, with an average of 3.32, equal to 8.30 acres each; but as only 24,553 hectares are arable, and as the pasture and woodland making up the rest is necessarily held in much larger tracts, the holding of

the cultivator must be small indeed. It has not been possible to ascertain the precise average, but it will suffice to say that of these 64,000 proprietors 62,430 enjoy only an income of from 1 to 100 lire, equal to $0.20 to $20, from their land. In the province of Padua, which may be regarded as the heart and center of the Venetian territory, lying to the north in the undulated upland, and stretching southward into the lowlands of the Adige and the Lagoon, the land is generally cultivated in farms of from 7 to 30 hectares, equal to 17.5 to 75 acres, on lease, and the small proprietors, who constitute the great majority, rarely hold more than 50 hectares, equal to 125 acres.

The terms of these leases vary considerably, the rent being paid sometimes in money and sometimes in kind, often in a given proportion of one and the other at the same time. Everywhere, also, the ancient "*mezziadria*" is common, where the landlord with the farm provides the necessary stock of cattle and implements, often of seed, sharing the produce by halves with the tenant. In either of these cases the arrangement is not of a kind to encourage wise and careful husbandry. Such tenants have neither the means to procure improved appliances themselves, nor the motive, if they possess the intelligence, to use them judiciously; and no landlord, Venetian at least, will forestall his scanty income to put delicate and costly instruments into such hands, even if there were any material advantage to be gained by it, which he generally doubts. Of the two instruments, the machine—a heavy outlay at first—must be maintained and repaired, and at the end of a given time replaced, while the laborer lasts longer, maintains himself at his own risk and expense, and when he finally wears out there is always a choice of eager competitors to fill his place on the same terms. This might be the conclusion if calculations were often made on the subject; more frequently indolence, aversion to novelty, or want of means prevail even where the advantage of the change is seen and felt.

But if neither the landlord nor his tenant finds his account in adopting these expensive improvements, the small proprietor, however well he may see their necessity, is rarely in a position to follow his better lights; the ravages of hail, frost, and inundation are always present or in prospect to swallow his scanty gains, the inveterate disesteem for his profession is now aggravated into a profound distrust by the decline which it latterly shows with alarming persistence, so that while unemployed capital is abundant in the banks, yet the cultivator cannot effect a loan on the mortgage of half his property at less than from 7 to 13 per cent., including fees, &c., which is more than he can make on the whole and live.

This has been the state of things very generally up to the past few years, and it is a vicious circle from which the escape will be slow and difficult. However, it is difficult to believe that a region so favored by the choicest gifts of nature will not eventually surmount this passing embarrassment. With the sun of Italy and the limitless resource of water and of water-power in her Alps she will find the elements of renewed force of production which will place her above the difficulties of her present situation. She is now in danger of irresistible foreign competition in her own markets, and that danger can only be conjured by the adoption of all the modern improvements within reach. All feel well enough the difficulty, many see where lies the remedy, and a few are earnestly striving to apply it. There are public-spirited proprietors who take to heart the improvement of their land as well as the cause of progress around them, and use liberally their gifts of fortune and intelligence in procuring and experimenting with all the improve-

ments which promise to ameliorate the productiveness of their estates or the condition of their tenants. They are exceptions, it is true, but their example is telling, and the desire to share the manifest benefit of such innovations is becoming more and more general.

But with the best intentions, and apart from the frequent want of means to procure these costly contrivances, there are often material obstacles to their introduction in the methods of culture peculiar to the region. In many cases the machine which works systematically and in straight lines would be difficult or impossible to maneuver in the confusion of trees, vines, and forage crops, intermingled with the grain, which encumbers the field in Northern Italy. Besides that, the promiscuous cultivation of various products together on the same soil implies the adsurdity of adapting one instrument to the requirements of the different plants so capriciously crowded together; and where, according to general usage, all these crops are sown broadcast, it becomes out of the question to touch either after the first planting without ruining one or both. This is one consequence of the overgeniality of the Italian climate, which fosters with its generous warmth nearly all productions alike, and is a serious obstacle to systematic culture, with its "*embarras de richesse.*" Whenever these partial impediments shall have been done away with, the region will certainly be an exceptionally good patron to inventors for the quantity of special appliances required by its varied productions, then put into more manageable form.

In the deep alluvium which stretches in an unbroken level along the lower courses of the great rivers, and forms a broad margin on the seaboard of the whole territory, most of these inconveniences disappear, and could it be secured from the constant danger of inundation, it would become a field for cultivation on the grandest scale. Here the most compendious machinery could operate unimpeded over vast spaces, where the identity of surface and soil would insure its perfect regularity of action, with a corresponding uniformity of the resulting crop which, handled with the same summary process, would realize that degree of economy necessary to make agriculture a successful industry in our day. It would still require the suppression of some of the vicious methods alluded to above—that of sowing broadcast and plowing in narrow strips, with deep furrows, or rather ditches, between, as well as of planting forage crops among the corn—but these practices are already discouraged by all competent authorities, and will hardly survive the application of more rational systems, when these advantages shall have been demonstrated by results.

USE OF ADVANCED AGRICULTURAL APPLIANCES.

The division of property, though less excessive than in other regions of the territory, is still such that the purchase of costly apparatus could be attempted with profit by very few proprietors for their exclusive use, but there is the expedient of association, or of the introduction of such instruments as a speculation by individuals who could furnish and direct their operation for hire in a given district. This usage has already gained a footing in some of the more advanced districts, as in Vicenza and Treviso, where the machine thrasher has thus come into general use. Here, too, lie the estates of some of the large land-owners of the country, and the introduction in some of these of the most complete modern appliances, as has been done by the Counts Papadopoli in the neighborhood of Adria, cannot fail to stimulate the self-interest, as well as the spirit of imitation, of the cultivators of the surrounding country.

With the accomplishment of national unity and the revival of the Italian spirit, agriculture, though less promptly, has shared the general reawakening, and, no longer confined to the exclusive interests of the villa or the domain, now takes the more effectual modern form of associated effort and research. Every considerable center now has its agricultural board, or "*comizio agrario*," where the rural interests of the neighborhood combine for mutual instruction and support, and where all that can further the progress of their art is discussed and turned to common benefit. In connection with these associations, the more enlightened of their number busy themselves with research and experiment and note the progress of improvement abroad, diffusing the result of their labors by lectures and publications.

In the same spirit of general advantage the central Government, through its ministry of agriculture, keeps attentive record of the agrarian movement, promoting it by inquests and by experiments and prize competitions. Unfortunately the difficulties of Italian finances do not permit the liberal measure of assistance which the backward state of agriculture would warrant.

Naturally the rapid development of special machinery of this class, and the extraordinary results obtained by its use, have occupied long since the attention of observing men. The necessity of its employment here was not less strongly forced on their conviction by the discouraging state of Italian agriculture, constantly more at disadvantage in the midst of modern progress. This persuasion became the fixed idea of the better-informed and more advanced cultivators, and, advocated by them with untiring perseverance, is now gaining ground with the most skeptical; and farmers of every class are now anxious to know these new inventions and make trial of their vaunted capabilities, while their respective merits are earnestly discussed in the agricultural publications, daily more numerous and popular, as well as in the frequent gatherings and conventions of farmers and agrarian societies. The best proof that their advantages are appreciated, in some quarters, at least, is that several of them are now manufactured in Italy.

The Government, with the best means of knowing fully the needs of the country, has shown its solicitude in a practical way. Of late years commissions have been repeatedly appointed for holding competition trials of particular classes of machines, with the assignment of prizes and proposed acquisition of those which should prove most valuable. In 1880 an interesting experiment of this kind took place on the model farm at Pisa, for sowers alone, in which, after a formal examination of the instruments in point of weight, material, workmanship, and cost, they were put in operation to judge their working and traction, the coming up of the grain afterwards carefully noted, and finally, when harvested, the yield of the respective plats certified in quality and quantity. And it is worthy of remark that after this exhaustive trial, the first and second prizes were awarded to Italian constructors: Messrs. Casimini and Sons, whose instrument weighed 500 kilograms—1,137 pounds—and cost $200; and (second) to Messrs. Nesti & Magni—weight, 993 pounds, cost $140—both houses of Grosseto in the Tuscan Maremma; while the well-known manufacturer Eckert, of Berlin, only obtained the third prize for his sower, the "Universal," a reputed and popular instrument.

Again, in an equally important competition of thrashers and steam-engines at Perugia, the third out of four was accorded to Signor Fiorenzi both for his thrasher and engine, the first, second, and fourth being won respectively by Messrs. Epple, Hornsby & Sons, and Beale &

Edwards. It will be seen from both these cases that even supposing the awards to have been somewhat influenced by some national partiality, yet Italian ingenuity has gone far toward appropriating such constructions, and, with a better knowledge of the special requirements of the country, is busily employed in modifying foreign inventions to suit them.

In fact, while a great variety of agricultural implements have been imported into Italy from different parts of Europe, and are being constantly more or less experimented on, but few have come into general use, and none have gained such universal favor as to be in exclusive demand. This is partly owing to the extreme diversity of the country in soil and topography, though even in the same locality different practicians vaunt their favorite instruments in the degree that these have satisfied their particular necessities or fancies. In the Venetian territory, one of the more advanced regions of Italy in its agriculture, the facts, so far as they can be ascertained, show alike the very unequal diffusion of improved implements and the disagreement in their choice. Everywhere, however, the American plow seems to have a large share of favor, especially the Aquila (Allen).

In the province of Belluno, according to official reports, instruments are few, principally the Dombasle, an ancient French invention, now manufactured generally in Italy, with a small number of American plows, with the vine-sulphurizing machine of Gauthier, and these are all. In the mountain region of Udine none of any kind; the plain is largely cultivated with improved plows—American and the "Grignon"—though many of the old wooden ones, shod with iron, are still in use. A few thrashers for steam, hand, and water power are found. Reapers, mowers, and extirpators very rare.

In Treviso, the Dombasle and Sambuy plows are the most common, with a few Aquila and Tomaselli for lighter work. Steam and hand thrashers begin to be generally used.

In the province of Venice the machines most widely diffused are thrashers for steam or water power, the Dombasle and Aquila (No. 19½) plows, and the harrow of Valcourt.

In that of Padua have been introduced the plows of Sack (Prussian), Tomaselli, Sambuy, the Aquila, and a Dutch plow, of which the first and last have been found to suit best the local requirements; the Valcourt and the Howard chain harrows, the extirpator and mower of Walter Wood, the reapers of Wood and of Johnston, with thrashers and straw-cutters of various makers.

In Verona the use of machines is impeded by the prevalence of "*mezziadria*" (farming on shares), and gains slowly. Harrows, extirpators, and scarifiers are scarcely known. Thrashers are generally worked by hand, as also corn-shellers; a few by steam. Mowers and reapers are experimented, but few purchased. Sowers gain ground in certain parts of the province.

In Vicenza alone machine farming has become general, though in mountain districts the thrasher only is in use. The Aquila plow has become common, and is prized for its cheapness and simplicity. The growing practice of drill-sowing has introduced the covering plow and the horse-hoe. Loose harrows are used principally for meadows. Mowers, horse-rakes, and hay-makers are making their appearance. Reapers, especially those adapted for mowing, also of Walter Wood, are in considerable number. Thrashers (principally those of Bigi) for steam and water power are common everywhere. Winnowers (Mure) and corn-shellers come more and more into use.

In the lowland province of Rovigo, where, as above observed, improved systems seemed especially adapted to the situation, but were until very recently almost unknown, a monograph published in 1882 by the ministry gives an idea of the progress made in the interval:

Steam thrashers are now sufficiently common, and our wheat and rice are all thrashed by them. Many cultivators have purchased these instruments; the rest use them on hire at a compensation of 4 per cent. in kind for wheat, and 2 per cent. for rice. Corn-shellers begin to come into use for maize, as well as the American reapers, harrows, and hay-makers, rotative pumps, filters, &c., are little employed, and a certain distrust of new inventions still prevails among the more ignorant cultivators. The palivomère plough of Bisinotto, the Valcourt harrow, and the sowing plow of Povoleri, with steam traction by the Howard system, are in constant operation in the vast estate of the Counts Papadopoli.

AMERICAN PLOWS IN VENETIA.

In the eventual and certain conversion of all this region to machine cultivation there will be a considerable demand to supply, and in the still undecided choice of instruments American ones, at equal cost, are not likely to be at a disadvantage. The favor accorded to the Aquila plow has already been noticed, and specialist writers from every part of Italy are enthusiastic in its praise. Professor Ottari, president of the *comizio agrario* of Casale in Piedmont, and one of the first authorities on the subject, complaining that the Dombasle, though working deep and well, does not turn over the earth completely, says:

The problem is serious, and perhaps is best solved by the Americans, which begin to make their appearance here, and quotes the Baron Mendola di Favara as follows: "The American plows from New York are fine-looking, and remarkable for solidity, lightness, and elegance. It is certain that the plows of Fissore, Gelaschi, and the other Dombasles have shown no such proof of resistance."

The president of the *comizio agrario* of Girgenti in Sicily writes:

With the American plow of Allen and two middle-sized oxen I make a furrow 30 to 35 centimeters in depth (12 to 14 inches), and yet my animals work with ease and alacrity; so that the depth and style of the furrow depends on the perfection of the instrument. I have discarded all the before-mentioned Italian, English, and French plows, and shall do the same with Eckert's. *Vive l'America!*

And further:

The American plow presents all these advantages because admirably constructed. In no plow have I ever seen all the laws of mechanics so perfectly observed; the share is wonderfully well joined to the shank, the screws never prominent, but each sunk into its little hollow; the share is of a metal *sui generis*, a composition entirely unknown to us, and still more unknown is the wood of the beam, so slender and still so hard, strong, and light; the colter is of tempered steel, and very much inclined forward besides, and this is unique, being made to run on the beam, while the lower center of gravity of the whole makes it extremely stable on its base. For all these reasons, as well as because the material, both wood and metal, are unknown, I consider it inimitable by us, and believe moreover that we can always get it cheaper from America than we could possibly fabricate it, since with all expenses of transport, &c., it can be had here at from 40 to 50 lire ($8 to $10). It has no less merit for the plowman and his team, who work it gaily and without fatigue. Moreover, the No. 18 a man can carry on the shoulder more easily than I my traveling bag. The No. 19½ he can carry also to considerable distance; these are advantages, well appreciated by the laborer in our torrid climate.

And Professor Ottari again:

They do not make the furrow so deep and broad, nor raise the slice of earth quite so thick as the heaviest Dombasles and others, but made heavier they would do it and with half the team, 4 instead of 8 or 10 oxen. But I also observed that while with the other plows we had made but 4 furrows, 6 were completed by the American, the animals working with the utmost facility.

Much more might be quoted to the same effect, as well as the details of the trial at Casale, but it is preferred to give the results in the words

of the judges themselves as briefer and more conclusive. It should be borne in mind that these plows, with McCormick's reaper and a few others, are the only American instruments generally known here, but in view of the perfection to which all our productions of the kind are carried, there is little doubt that other American agricultural appliances would show the same unquestioned superiority if brought to the knowledge of Italian cultivators, and fairly tested to their satisfaction. And it must not be forgotten that though the implements of cultivation proper are less called for in mountain regions, all the appliances of the dairy are equally indispensable; the same may be said of apparatus for the wine, silk, and textile industry.

In the Venetian dairies the place of honor seems in a great measure occupied by the instruments of Lefeldt, now largely in use, and which give such general satisfaction that mention is rarely made of any rival invention.

In other respects the undecided and tentatory phase of the question, where no special instrument has gained a firm hold on public preferment and habits, certainly seems a favorable moment for seizing the position, and the best means for doing so seems indicated by the form which the movement has already taken in this initiatory stage.

ITALIAN AGRICULTURAL SOCIETIES.

It has been stated above that the agricultural interests of the various regions are principally represented by the *comizio agrario* societies of the most influential and intelligent cultivators. These are the organs and collaborators of the central authority, the ministry of agriculture at Rome, which often aids them with the funds for objects of public interest, as for instance, in 1874, by a grant of 3,500 lire ($700) to the associated "*comizii*" of the province of Vicenza for creating a deposit of the instruments best suited to the requirements of the region. But, besides this, the Government has, since 1872, founded at different points of the Kingdom sixteen important deposits for the same purpose of loan on trial and eventual sale to associations and private cultivators, commencing with the acquisition of the best instruments, chosen at the exhibitions of Vienna and Paris. Still more recently it has instituted twenty-one schools of practical agriculture, and various other special establishments for dairy, fruit, garden, and wine industries, each provided with the necessary instruments, not only for instruction but for general experiment whenever requested.

Evidently a desire for improvement is not wanting in the proper quarters, and if additional proof were wanted the recent exhibition of Italian industry at Milan, and that now in progress at Turin, are indications of a movement not likely to subside at once, nor to be without effect on Italian industry and production.

HOW AMERICAN IMPLEMENTS CAN BE INTRODUCED.

If American constructors are to profit by the result, it will be by having their products well represented in the first place at these gatherings where they may be seen and examined, as well as at the regional competitions, which now succeed each other throughout the year at different points of the territory, where they will be tested before competent judges. No object is more severely proved on its practical merits than an agricultural machine nor so useless to recommend on any other ground to simple men who believe only what they see; on the other

hand, when once accepted, none is so sure of a public not given to multiplying experiments. To insure the proper and assiduous presentation of the instruments on such occasions, which would be the best means of introducing them into the market, and which would require a large share of tact and intelligence, as well as much personal attention, the surest and most effective method would be to have on the spot a special agent devoted to the interests of the producer or of a group of them. As to the exact nature of the relations between business houses in Italy and foreign manufacturers, it is difficult for me to give reliable information, the principal houses which import such objects being at Milan and Bologna, and there being, as I am assured, no such house here in Venice. The principal, if not the only, deposits of foreign agricultural machines for the territory are the Government one at Udine, and that of the associated "*comizii*" at Vicenza. The well-known foundry of Neville & Co. here, as well as that of Signor Rochetti at Treviso, and the "Venetian society for public contracts and constructions," manufacture machinery of this as of any other description to order and model, but it is doubtful whether such an agency for foreign products would be at all in their line. In all cases where the representation were given to an establishment in the country, the stipulations should be well adjusted, as the house would naturally give its best zeal where it found its greatest material interest. A special agent, it may be repeated, would be better, one familiar with the country and language, whose sole object should be to put forward in every way the products to be introduced. During this first stage, their success would be more a question of assiduity and perseverance than of calculation.

It is obvious that instruments to suit the requirements of a community already partially familiar with their nature and use should be of the most improved description. In the encomiums of the American plow above quoted it will be recollected that the sole reservation was their limited penetration; this may serve as a hint to the manufacturer. It should be borne in mind further that most of these implements will be placed in the hands of cultivators not only uninstructed, but who, habituated from father to son only to the rudest and most primitive contrivances, are devoid of the tact and dexterity necessary to handle delicate instruments; moreover that in the great cities alone are to be found the workshops capable of repairing a serious injury. They should be, therefore, as simple as their principle will allow, and of the most solid construction. Finish or appearance would be of little moment, as the careless nonchalance of the Italian laborer would neither appreciate nor preserve it.

The great distance of America would seem at first to imply a formidable item in the cost of transportation, but since the introduction of direct steam lines between the two countries, four or five of which are in competition for cargo to and from the port of Venice, freights are likely to continue reasonable, and, in fact, for some time past they have been rather less proportionally to New York than to England. Apart from this, the inland transportation here can never be more than a few hours of railway to the station at which the object would be consigned, in most cases to the agent or farmer.

AMERICAN MANUFACTURERS AT FAULT.

In conclusion, it is certainly to be regretted that, while the desire and the urgent necessity of the best appliances for cultivation is becoming each day a more constant preoccupation with the rural population here,

expressed and insisted on with growing persistence by all intelligent men, and while the makers of these appliances in other parts of Europe, and particularly in England, are using every effort to meet and forestall this want by keeping their products constantly before the public, whenever the occasion offers, and these are now numerous in the fairs, exhibitions, &c., as well as at the public competitions, where English machines are always in the majority; while one firm, that of Rasten Proctor, of Lincoln, has even implanted a branch manufacturing establishment at Bologna, it is to be regretted that American inventions, which have everywhere proved themselves equal or superior, should be comparatively unheard of; that there should be no special representative, whether of Government or private enterprise, to assert the claims of American skill and talent in the only way in which it can be done effectually—by bringing their products to the test of experiment on the spot where their application is needed and called for, and where their success would be most certain.

AREA OF VENETIAN LAND PROPERTY.

The Venetian territory is an important division of a great Kingdom; it is almost exclusively a pastoral and agricultural region, and is now on the eve, driven by necessity, of renewing its whole plant and material. Our manufacturers for this special purpose are seeking a foreign market, and here is a vast field opening, and now is the critical moment to occupy it; if lost, it may not occur again so apropos for years.

Appended is a summary statement showing the area of landed property and its distribution according to the latest returns at hand. These returns still have room for uncertainty in regard to the relative extent of the parcels in the different categories of arable pasture and wood land, as also touching the exact correspondence between the numbers of parcels and owners, separated parcels belonging often to the same proprietor; and on the other hand, different parties having co-proprietorship in the same lots of land, as in the case of families, firms, and corporate bodies, &c. Competent authorities, however, affirm that these differences generally compensate each other, and that the average comes very near the reality. A list is also given of those agricultural implements which occur most frequently in the catalogues of the sixteen governmental deposits before mentioned, which may serve as a guide to manufacturers by indicating those which have been found best suited to the requirements of Italian native cultivators.

TARIFF ON AGRICULTURAL MACHINERY.

Agrarian machines fall into class 1980 of the Italian customs tariff, "machines not specially named and detached pieces of machines, except those for garnishing carding machines," and are taxed 8 lire, or $1.60, in the general tariff. For the following countries, however, there is a tariff of favor under which the tax for those machines is 6 lire, or $1.20, the metric quintal. These countries are France, England, Belgium, Holland, Sweden and Norway, Turkey, United States of America, and Russia.

I have thus endeavored to furnish the Department with what facts could be procured of a nature to be of use to our manufacturers in entering the markets of this region, where, so far as ascertained, there exists as yet no special agency for representing their interests. Should any of them or of our agricultural authorities desire to occupy themselves further with the subject or to act on any of the suggestions con-

tained in this report, I should be happy to afford them more detailed information, or to give them any practical aid which it is possible that my acquaintance with specialists interested in the movement might place within my means.

McWALTER B. NOYES,
Consul.

UNITED STATES CONSULATE,
Venice, May 24, 1884.

Statement showing area and division of landed property in the Venetian territory.

Provinces.	Proprietors with income from land of—			Total.	Incomes less than 100 lire in 100 proprietors.	Productive area.	Average to 1 proprietor.	Population.	Proprietors number 1 in—
	1 to 100 lire.	100 to 1,000 lire.	Over 1,000 lire.						
						Hectares.			
Belluno	62,430	11,541	175	64,166	97	290,495	4.50	190,481	3
Udine	200,590	7,916	643	208,249	96	496,637	2.40	495,016	2.2
Treviso	42,298	6,571	982	49,851	85	229,625	4.60	382,410	7
Vicenza	84,963	7,707	1,383	94,053	90	254,182	2.70	393,250	4
Verona	57,472	7,845	1,363	66,680	85	269,842	4.00	388,489	6
Padua	30,617	6,549	1,414	38,571	79	197,877	5.10	386,762	10
Rovigo	26,617	2,901	599	30,415	88	157,640	5.20	214,322	7
Venice	11,502	3,356	758	15,616	74	192,811	12.30	346,551	22
Totals and averages	516,487	43,477	7,617	567,581	90	2,089,109	3.68	2,797,581	4.90

List of the principal agricultural implements in use in sixteen deposits of the Italian Government.

Name of implement.	System.	Purchase price.
		Lire.
Plows	Howard	87 to 312
Do	Sack	170
Do	Allen	43.50 to 67.50
Do	Dombasle	58
Plows, turned shank or saw	American	
Do	Talpa (mole)	95
Harrow, rectang	Howard	135
Harrow, chain	do	47.50
Harrow, rhomb	Valcourt	61.10
Extirpator	Casalese	
Scarifier	Coleman	880
Clod-crusher	Crosskill	580 to 750
Coverer-plow	Dombasle	45 to 60
Do	Tomaselli	
Horse-hoe	Morocari	70
Do	Mure	
Do	Howard	
Do	Richmond	80
Do	Cantoni	75
Sower	Bodin	206
Do	Povoleri	290
Sewer	Garrett	1,090
Do	Sack	270
Do	Bodin-Cantoni	188
Mower	Wood	1,025
Do	Sprague	550
Mower reaper	Wood	
Do	Pelton	1,040
Do	Samuelson	
Horse-mill, round	Pinet	
Steam-engine	Brown & May	2,200
Do	Cosi Mini	

List of agricultural implements, &c.—Continued.

Name of implement.	System.	Purchase price.
		Lirs.
Thrasher, hand	Weil	376
Thrasher, horse	Pinet	450
Thrasher, steam	Epple	3,600
Thrasher and steam-engine	Cosi Mini	11,400
Thrasher for clover, &c	Chenel	300
Thrasher for clover, hand	do	
Corn-sheller	Mure	131.60
Corn-sheller, horse	Clayton	
Winnower	Cosi Mini	
Winnower separator	American	400
Winnower sheller	Pernollet	170
Grubber	Peltier	169.20
Straw-cutter	Hunt & Tarel	102.90
Do	Anderlini	
Do	Wilder	
Straw-crusher	Farner	225
Grafter	Petit	
Do	Bardaguer	
Wine-press	Mabille	571.30
Do	Mure	748
Do	Calzoni	
Pump-transvasating	Heinrich	427
Syphon-transvasating		54
Wine filter	Carpené	105
Wine thermometer	do	190
Distiller for lees	Willard	3,000
Do	Rothner	
Alembic		50
Skimmer, cream	Lefeldt	106
Churn, horizontal	Mure	33.84
Churn, English		153.61
Churn, Swiss		45
Butter crocks	Lefeldt	138.25
Butter and cheese press		48.84 to 115.21
Silk-worm hatcher	Orlandi	
Chicken hatcher	Roullier	142.90
Chicken-feeder	do	67.64
Olive press		
Olive crusher		
Pump, sprinkling	Noel	251.75
Pump, manure	American	75
Dynamometer	Kraft	
Rural tramway	Ferretti	

AUSTRIA.

REPORT BY CONSUL-GENERAL WEAVER, OF VIENNA.

AREA AND ACREAGE UNDER CULTIVATION.

In reply to your circular dated February 20, 1884, and received at this office on the 7th day of April last, relative to the introduction of American machinery upon the markets of Austria, I beg to report as follows:

The territory of Austria proper, omitting Hungary, comprises 115,824 square miles or 74,127,360 acres, of which about four and one-half million acres are unproductive. The number of farms cannot be specifically given, but they are generally very small. The number of land-tax receipts in 1883 was 5,198,904, but a large number of these were paid by the same persons residing in different tax-districts; after deducting these the number of different persons paying taxes on land or real estate was 4,116,216. The average amount of taxes paid was $16.03, and the average amount of land for which this tax was paid was 16.95 acres, averaging about $1 per acre. And it is said that only 1,129 names stand on the records as paying over 1,000 florins or $400 ground taxes, which would indicate that the number owning large tracts

of land in Austria is exceedingly small. It is well known, however, that certain members of the imperial family and of the nobility, as well as many others, possess large estates. It should be noted that a large part of those paying taxes on real estate are owners of small lots in cities and villages; that consequently the taxes on these lots would exceed to an enormous extent the taxes on the agricultural lands, to the end that the $400 tax would represent thousands of acres in the agricultural districts. Again, it appears from the census of 1880, that the number of persons owning forest and agricultural lands in Austria was 2,275,117; that the forests comprised 22,800,069 acres, and the arable land, consisting of grain fields, gardens, meadows, &c., amounted to 46,629,557 acres, making a total of 69,629,557 acres. This would give for each owner an average of 31.2 acres of the whole, or only 20.5 acres of the agricultural lands in Austria.

Even when in the possession of large land-owners these lands are usually parceled out for farming purposes to the peasantry, who rent or crop them in very small portions. The nature of the soil is greatly diversified, being mountainous to a large extent, particularly in provinces of the Tyrol, Vorarlberg, Galicia, Styria, and Dalmatia. But along the valleys of the great rivers, and in Bohemia and Moravia, the country is flat or gently rolling, so that the soil is here well suited for agricultural purposes, but outside of the valleys the soil is not very productive, consisting generally of a light loam, better calculated for the production of vegetables and vines than grain. The 2,511,483 acres sown in Austria in 1882 produced, however, 44,543,154 bushels of wheat, being about 17¾ bushels per acre, against 17⅛ in 1880. The arable land under grain cultivation for that year is officially given at 25,153,379 acres; consequently, about one-tenth is sown in wheat, the same quantity in barley, about 90 per cent. more in rye, 75 per cent. more in oats, and only about one-third as much in maize. The total average production of all grains in 1880 was 17$\frac{9}{10}$ bushels per acre, aggregating 267$\frac{8}{10}$ million bushels, which amounts will show the great importance of Austria as an agricultural country.

CULTIVATION OF THE SOIL.

The cultivation of the soil is largely carried on by hand, relatively little machinery being used. The hoe and the flail have not yet been driven out by the steam-plow and separator, and will not be for many decades to come. This is owing partly to the nature of the soil, but largely the result of the habits of the people and the cheapness of labor. As has been frequently pointed out in these dispatches, the laboring classes of Austria do not succeed well in the use of machinery; first, because they have not the native tact to use it profitably, and secondly, on account of their prejudice against it, as well as against all new-fangled notions in general, which disturb their *status quo*.

IMPORTATION OF AGRICULTURAL MACHINES.

Efforts during the last ten years have been made to introduce American machinery, such as thrashing machines, reaping machines, windmills for drawing water, hand-separators, pumps, and lawn-mowers, which at first promised great success; but of late the tariff has been largely increased on these articles; manufacturers of agricultural machinery have succeeded in successfully imitating and in cheapening prices, to the end that the importation has now almost ceased, especially

from the United States, on account of the large freights, for the nature of these machines demanding large space increased the cost of transportation, if brought set up, and if shipped in pieces the difficulty of putting them together here and giving them their original finish became almost insurmountable, to the end that the traffic has largely fallen off. Foreign machinery and tools are yet imported, mostly, however, from Germany, but this resulted more on account of the cheapness of freights than from any other reason, since the conventional tariff at present in force between Austria and Germany does not affect manufactures of iron or steel. However, if agricultural machinery should consist mainly of wood, being neither painted nor polished nor connected with any other material, it would come in free, instead of paying 48 cents for 220 pounds as per general tariff; consequently in the matter of agricultural machinery and implements no special favors are shown any nation, unless in a very limited extent, and in such articles as cannot seriously affect American manufacturers.

In 1880, the latest date from which reliable data is published in this respect, there were 5,387 tons of agricultural machinery imported into Austria-Hungary, valued at $783,162, on which $102,561 of entry duties were collected. Of this amount 5,355 tons entered by the German frontier, against only 8 tons by Trieste. The largest portion of these imports were intended, doubtless, for Hungary. For the same year the exports of agricultural machinery amounted to 1,682 tons, going almost exclusively to Russia, Roumania, and Servia, being, respectively, 708, 564, and 62 tons. The imports for 1883 and the first quarter of 1884 manifest, furthermore, great decrease, being only 3,993 tons for 1883, and 577 tons for the first quarter of 1884.

The nature of the imports and exports of agricultural machinery into Austria-Hungary during the above periods may be seen from the following table, the quantities being given in tons of 1,000 kilos (2,200 pounds).

Classification.	Year 1883.		First quarter 1884.	
	Imports.	Exports	Imports.	Exports.
	Tons.	*Tons.*	*Tons.*	*Tons.*
Thrashing machines, cast iron	200	568	25	6
Thrashing machines, others	795	15	10	
Other agricultural machinery, cast iron	1,530	778	194	214
Other agricultural machinery, others	1,468	107	288	9
Scythes, sickles, and feed-cutters	49	2,923	4	1,282

No separate record is kept of the number of spades, shovels, hoes, forks, &c., which may have entered the Empire, but they cannot aggregate any considerable amount. The duties paid on agricultural machinery are either $3 or $3.60 per 220 pounds, according as the chief material be cast iron, or other iron and steel.

The satisfaction resulting from the use of the imported machinery is generally very great, as far as the intelligent classes are concerned. They perceive that with proper use they greatly facilitate labor, that in point of durability and neatness they greatly surpass those to which they have been accustomed, consequently many efforts are made by such to have them introduced. The prices, however, counting tariff, freights, agents' expenses, &c., are too high, to the end that it has become practicable for manufacturers here to produce nearly the same

articles at less cost, and undersell the importer, even if the home-made article be not quite equal to the imported in point of finish and lightness, which to the ordinary laborer is not so serious an objection as one might suppose, he having never been accustomed to handle anything better.

HOW MACHINERY IS INTRODUCED.

The methods of introduction into this country are generally by means of agents, who should understand the language, habits, and wants of the people, and be able to explain the use of the machine or tool. Circulars, even if in the language of the country, would doubtless effect but little. The great desideratum is push; for without this only inferior success, if any at all, may be expected. And here comes up the most difficult matter of selecting a proper agent; for those already possessing proper business qualifications can hardly be induced to undertake a new project promising no greater success than the introduction of agricultural machinery into this country, and to send a stranger, even a partner of the home firm or manufacturing company would hardly, at least for the time being, result in success commensurate with the necessary outlay. The wareroom idea may be good in a sense, but here the expenses attending the same are apt to surpass the outcome, unless one agent could represent severel interests. All these projects have, however, so many contingencies that success thereby must be very problematical. Consequently it could not be advised confidently, as far as Austria is concerned, to enter into either of the above methods, until reliable information for each individual project had been carefully taken.

Should, however, the American manufacturers contemplate seriously the introduction of their agricultural machinery into this country they should send some practical, capable person to investigate more especially each field and department of trade than it is possible for the consul to do at present, in view of his manifold duties and limited means; for then being on the spot and meeting the people he would learn as can only be learned the actual state of the matter and the possibilities of competing successfully with home manufacturers.

As far as the imports of agricultural machinery into this country are concerned they come usually by steamer to one of the northern seaports, viz, Hamburg, Bremen, Rotterdam, Antwerp, or Havre, and occasionally by sail and steam to Trieste or Fiume. From there they are sent to destination by railroad, or, if very heavy, they can sometimes be advantageously forwarded by canal as far as Prague; yet the cost of insurance and the delay resulting from this last method are such as generally to cause the railways to be selected as the best method of transportation. Purchases are made generally on time at from three to six months. As Americans cannot take such risks they are compelled to transact business with special agents, who give fixed orders and pay in accepted bills on receipt of the bills of lading or the articles bought at port of landing.

DEALERS IN AGRICULTURAL IMPLEMENTS.

Probably for those who do not wish to undergo the necessary cost, time, and labor of coming in person to establish an agency in this country, the most practical method would be to have circulars printed in German, which they could mail to the subjoined list of firms engaged in this business, soliciting examination and correspondence. This, at

least, has the merit of not costing much, and the result may surpass expectations. At all events I beg to inclose herewith the names of firms engaged in the manufacture and sale of agricultural machinery and utensils in the various provinces of Austria:

IN VIENNA.

Jac. Blaschke, V. Rampersdorfgasse, 14, Vienna.
Anton Burg & Sohn, IV. Favoritenstrasse, 42.
Clayton & Shuttleworth, III. Löwengasse, 34.
Nicolaus Feher, III. Praterstrasse, 13.
Josef Friedländer, III. Hint. Zollamtstrasse, 13.
Hoerde & Co., II. Taborstrasse, 75.
Holfherr & Schrantz, X. Erlachgasse, 26.
Gebrüder Israel, Währing, Herrengasse, 5.
Krauss & Co., Währing, Herrengasse, 64.
Land- und forstwirthschaftliches Verkehrs-Bureau, III Ungargasse, 59.
Lehmann & Leyrer, I. Elizabethstrasse, 15.
Ph. Mayfarth & Co., II. Praterstrasse, 66.
A. Pfanhauser, IX Maximilian Platz, 10.
A. Rack & Co., II. Praterstrasse, 47.
M. Schoch & Co., I. Stefansplatz, 5.
G. Sigl, IX. Eisengasse, 5.
M. Bader, II. Herminegasse, 12.
M. Strickers' Söhne, I. Kärntnerstrasse, 28.
Vogel & Co., II. Franzensbrückenstrasse, 15.
Waltenberg & Co., I. Graben, 15.
J. Weipert & Söhne, II. Praterstern.
Georg Zugmayer & Söhne, I. Bräunerstrasse, 10.

IN THE PROVINCES.

Abl, Schrank & Moser, Scheibbs, Lower Austria.
Ignatz Alle, jr., Iglau, Moravia.
Peter Arnhofer, Leibnitz, Styria.
L. Biskupski, Kolomyja, Galicia.
X. Buxbaum, Pilsen, Bohemia.
Julius Carow, Prague, Bohemia.
M. Dornwald, Ujkovice, Galicia.
Franz Donté, Biala, Galicia.
Carl Drössler, Neutitschein, Moravia.
B. Eichmann, Ferdinandsstrasse 6, Prague.
John Fowler & Co., Pflastergasse 5, Prague.
Carl Fritscher, Büdingsdorf, Moravia.
Graf Harrach'sche Eisenwaarenfabrik, Janowitz, Moravia.
Giuseppe Hobzer, Trient, Tyrol.
J. Hubaczy, Krönstrasse 44, Brünn, Moravia.
B. Jarkovsky, Jaromer, Bohemia.
Berthold Kraus, Prag-Bubna, Bohemia.
Gottfried Kröber, Bielitz, Silesia.
Joh. Krumbach & Co., Maxheid, near Wells, Upper Austria.
Landwirthschaftl. Maschinen-Fabrik, Blansko, Moravia.
Landwirthschaftl. Maschinen-Fab., Tarnow, Galicia.
Franz Morant, Neutitschein, Moravia.
A. Müller, Grottaw, Bohemia.
Jos. Müller, Jenbach, Tyrol.
Carl Nierhaus, Mürzzuschlag, Styria.
J. Pechanek & Söhne, Hôric, Bohemia.
Gebrüder Penn, Rastenberg, Lower Austria.
M. Peterseim, Krakau, Galicia.
Josef Pöbzl, Grafendorf, Bohemia.
J. Rattich Sohn, Wölkingsthal, Moravia.
A. Reissenzahn, Bubna (Prague), Bohemia.
Baron E. Rothschütz, Pösendorf bei Laibach, Carniola.
Jos. Schimböck, Prägarten, Upper Austria.
Edm. Schmja, Bielitz-Biala, Moravia.
Schnabl & Co., Trieste.
Schreiber F. Ried, Tyrol.

Schwarz & Kraup, Prague, Bohemia.
Fürst Joh. Schwarzenberg, Werks-Direction in Murau, Styria.
H. Schwingshakl, Laibach, Krain.
B. Smetan, Gratz, Styria.
Franz Spielvogel, Sandhübel, Silesia.
Jos. Stanek, Kleinmünchen, near Linz, Upper Austria.
M. Steppau, Poderam, Bohemia.
William A. Stone, Prague, Bohemia.
A. Stubinger, Lagergasse 9, Gratz, Styria.
Chr. Ulrich, Bruck a. d. Mur, Styria.
Ulrich & Co., Krasna, Moravia.
Th. Umrath, II. Heuwaagplatz 15, Prague.
Lenard Valentin, Agram, Croatia.
Jos. S. Vilimek, Florenzgasse 3, Prague.
J. Vonihr's Sohn, Gratz, Styria.
Zeyer & Lahoda, Prague, Bohemia.
Zugmayer & Söhne, Waldegg bei Oed, Lower Austria.

The names and firms contained in the foregoing list, it should be clearly understood, are in most cases unknown to me personally, and I could not therefore undertake to vouch for their business standing or integrity. Some of those residing in this city, however, are known to me to be successful business men, who, I doubt not, would in every instance be ready to entertain all such business projects submitted to them by American manufacturers as would appeal to their personal interests, and doubtless only such. The following names are given as especially interested in the importation of American agricultural machinery, and may be addressed for special information in case of need:

VIENNA.

Josef Friedländer, III. Hint. Zollamtstrasse, 13.
A. Rack & Co., II. Praterstrasse, 66.
Nicolaus Feher, III. Praterstrasse, 13.
M. Pincopps, IX. Berggasse, 13.

It will be noted that I have confined my attention in the foregoing remarks entirely to Austria, not including the Hungarian half of this monarchy, as I am informed by our consul at Budapesth that he intends making the matter the subject of a special report for that kingdom, which, for our manufacturers of agricultural machinery, possesses much greater possibilities and importance as a market for their products than does Austria.

JAMES RILEY WEAVER,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Vienna, July 7, 1884.

GREECE.

REPORT BY CONSUL-GENERAL SCHUYLER, OF ATHENS.

In reply to the circular of the Department dated February 20, 1884, relating to agricultural machinery, I have the honor to inclose a translation of a letter from Mr. Gennadius, the director of the department of agriculture, and also a copy of answers to the questions of the circular by Mr. Philip Palli, of Athens.

I think that these two papers will give sufficient information as to the market in Greece for American agricultural tools and implements.

I will add only that Mr. Philip Palli, who has long resided in England, has practical knowledge of agriculture, owning a large and productive estate near Thebes.

He is also engaged in the importation of agricultural machines, and during the past year imported a number from the United States which he sold in Thessaly. He would be willing to answer any questions put to him by manufacturers and place himself in relations with them.

EUGENE SCHUYLER,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Athens, July 31, 1884.

[Inclosure 1.]

REMARKS BY MR. GENNADIUS ON THE INTRODUCTION OF AGRICULTURAL MACHINES AND IMPLEMENTS INTO GREECE.

The bad roads and the economical condition of the country render any agricultural improvement very difficult. Notwithstanding, in the populous centers where money is not lacking and where there are good communications attempts at improvement have not always failed. Thus, in the neighborhood of Athens, Larissa, Nauplia, Volo, &c., mold-plows and reaping-machines are successfully employed.

In Greece only the most necessary implements and machines should be introduced. They should be simple, light, and cheap, constructed with as little cast iron and as much wood as possible. However, complicated machines could be introduced with success on condition that the amount of work performed with them be much greater than that performed by hand, or with the aid of primitive implements in the same space of time and at the same expense. Thus in several provinces, where, during the harvest and the thrashing the laborer receives from 5 to 7 francs (96 cents to $1.35) a day, the introduction of reaping-machines would be advantageous. It would be equally profitable to introduce thrashing-machines, but on condition that they be provided with chaff-cutters (like the machines from Ransome, Sims & Head, of Ipswich, England). Straw so prepared is given to cattle and horses in winter, when they are kept in stables. The introducer of these machines ought, of course, to be able to furnish to his customers at reasonable prices the metal pieces which wear out or break easily.

The importation of excellent American pitchforks, shovels, axes, and saws, as well as of any other simple and cheap agricultural or horticultural implement, would also be of great advantage. Coarse and strong corn-shellers (as the Virginia corn-sheller, and the common corn-sheller from Carr & Hobson, of New York), road-scrapers, wheelbarrows, and churns could be introduced with equal advantage. But all these implements ought to be cheap and strongly and simply constructed.

In order to give an idea of the plows which could be introduced advantageously into Greece, I will mention here as an example the No. $\frac{1}{2}$ of the Improved Valley Plow from A. Speer & Sons, of Pittsburgh, Pa., and of the Pony Plow from Carr & Hobson, of New York.

The agricultural implements used in improved cultivation, such as harrows, rollers, drills, rakes, cultivators, &c., are, and will be for a long time to come, objects of luxury in our system of agriculture.

P. GENNADIUS.

ATHENS, *May* 2 (14), 1884.

[Inclosure 2.]

ANSWERS TO DEPARTMENT CIRCULAR, BY MR. PALLI, OF ATHENS.

FARMS IN GREECE.

In the Morea the cultivated land is divided into small farms, but in the north part of Greece the properties are large enough to permit a more advanced system of agricultural cultivation, especially in Thessaly, where properties have an extent of from 2 to 25,000 acres, and where steam plows could in summer be used with great advantage.

SOIL AND PRODUCTS.

The nature of the soil varies very much according to each locality, but is in most parts naturally very fertile. In the Morea the principal agriculture is in vineyards. In Beotia and Phthiotis grain is more cultivated; cotton and tobacco also are very productive. The soil is composed of limestone, oxydized by iron, sand, clay, and both animal and vegetable manures. The land under the mountains contains a good part of decomposite serpentine. It would be a copious work to define the soil of each part of Greece, as the analogy of the above-mentioned elements varies from point to point. Thessaly, the most fertile portion of Greece, is divided into two great plains—the plain of Larissa and the plain of Carditza, both most wonderfully fertile in grain, but the last named the more productive of the two, with less labor.

AGRICULTURAL CONDITION OF GREECE.

The agricultural condition of Greece is far from being in a perfect state, the present mode of cultivation being carried on by hand labor, which is enormously dear. There is much to be done, especially in the introduction of modern implements and machinery.

AGRICULTURAL TOOLS.

The agricultural tools consist of ancient forms of plows and a large kind of hoe used instead of spades or vineyard plow. But in certain districts there has been for some years now great progress, by the use of more modern implements, such as iron plows, harrows, reaping and thrashing machines.

ADVANCED APPLIANCES.

The extent to which advanced appliances prevail is not very important; but now daily the want of better implements is increasingly felt. The country itself produces iron plows for grain cultivation more suitable to the soil than any foreign introduction up to the present. All the other new implements are of foreign importation, from France, England, Germany, and America. Plows for all cultivations, agricultural pumps, sifters, and sorters from France. Threshing machines, harrows, wire-fencing, chaff cutters, reapers, and mowing machines from England. Ditto, machinery from Germany. From America, reapers from the house of D. M. Osborn, Auburn, N. Y., have been introduced with much success, and lately binders, but not successfully, as they require a more high class cultivation. For the vineyards the French plows are most successful, being the best known.

AMERICAN MACHINERY.

Except the reapers and binders introduced by Mr. Philip Palli, no other American machinery or implements have been imported in any quantity, but the above-mentioned are highly esteemed as more practical than those of other countries, especially for cutting the green barley, which in Attica and Beotia is used instead of hay.

HOW AGRICULTURAL MACHINERY IS INTRODUCED.

The manufactures of the several countries have been introduced by private people, who, having procured them for themselves, and being successful, are requested by others to order more.

The United German Agricultural Company established three or four years ago a branch house in Piræus, but, having a German director not knowing the country, and requiring cash payment, also the German manufactures not being highly esteemed, it is not likely to make large profits, though it is still able to carry on business.

HOW TO INTRODUCE AMERICAN MACHINERY.

The best manner of introduction would be to establish a house, representing the agricultural manufactures of America, in Athens for specimens, as the center of all national movements, with a stock house in Piræus, with a native director, and under him one or two special mechanics to arrange and fix up the machines and start them working. This is most certainly necessary, as those who have tried to introduce machines without fully understanding the machinery, or the working of them, have signally failed, the first impression having been given that the machines are not good. By such a house the machines can be sold much cheaper than through an agent, who gets his money by a percentage on each machine, whilst the director of a house has his regular pay.

PURCHASE SYSTEM.

The system on which purchases are made varies according to the solvency of the purchaser, either cash, or three months with one, two, or three signatures.

DUTY FREE.

As agricultural implements and all machinery are duty free, they are usually removed at once from the docks by the importer.

HOW MACHINERY IS IMPORTED.

Machines are generally imported by steam from Liverpool, London, Marseilles, or Trieste direct. The American machines imported by Mr. Philip Palli arrived once by the Italian Company Florio's Line at Pirœus, having come from New York to Palermo and there transferred; but with this exception, they have come from New York to Pirœus with transfer at Liverpool, as there is no direct communication at present with America.

REQUIREMENTS OF THE GREEK FARMERS.

The Greek farmers are very practical; they do not require great neatness of finish nor unnecessary stylish make-up. What they do require is strength and durability, associated with lightness.

AN AMERICAN HOUSE AT ATHENS.

If a house should be established in Athens it would be highly advantageous to have the names of manufacturers, and illustrated catalogues including the list of prices in the language of the country, as the Greek language is spoken throughout the east of Europe.

EFFORTS OF FOREIGN MANUFACTURERS.

With the exception of the German manufacturers, there has been no real effort on the part of other countries for the enlargement of their sales.

EXPENSE OF IMPORTATION.

The expenses and risks of importing agricultural implements and machinery from the United States are much greater than from any port of Europe, owing to the distance and to the necessity of transfer from one ship to another. If an arrangement could be arrived at with the American steamship company who run vessels to Sicily for the lemon trade, the American goods would then be landed at the Pirœus with less cost of freightage and a minimum of risk.

DIRECT COMMUNICATION WANTED.

Could direct communication be established it would be of great advantage to both countries. American goods and manufactures are highly esteemed in Greece, and as currants, lemons, and Greek tobacco are not despised in America it is to be hoped that a direct communication will be shortly established.

FRANCE.

THE ALPES-MARITIMES.

REPORT BY CONSUL WILSON, OF NICE.

NO FIELD FOR AMERICAN AGRICULTURAL MACHINERY.

I have the honor to respond, at my first opportunity, to Department circular of February 20, 1884, on the subject of American agricultural implements, and how they may be introduced into foreign countries. It is my impression that there does not exist in my district sufficient demand or necessity for these implements to make the trade remunerative. I doubt the success of an attempt to introduce them here. I make an exception in favor of the lawn mower.

PRODUCTS.

The culture of the principal products of this region, the olive, orange, lemon, and fig, the flowers, vegetables, and, to a large extent, the hay and grain of the farm, is here carried on by hand.

AGRICULTURAL IMLPEMENTS IN USE.

The agricultural implements are of the most primitive kind.

The old plow used in the time of the Romans, which only stirs the ground but does not turn a furrow, is still in general or frequent use in the interior. The mold-board plow is just being introduced.

The horses or mules, sometimes both together, are yoked, not harnessed, to the plow. I have never seen a harrow. The woman, usually the wife, does its work with a pronged hoe.

The configuration of the country is such as to prohibit any extensive use of agricultural machinery. We are here in the midst of the Alpes-Maritimes, which give the name to the department. The valleys are narrow, and the principal part of the tillable land is in the form of narrow terraces on the mountain sides.

There is here no opportunity for the large farming of the United States in which labor-saving machinery is so effective.

The farming implements are constructed, and the farming operations are carried on, with reference to mountain tillage and harvesting.

HABITS AND CUSTOMS.

The peasant population is dense in proportion to the quantity of tillable land. They are intensely conservative; think their own old way the best, and will not change. Though given to grumbling against the powers that be, they like to take things easy, to work slowly and without hurry, and are not ambitious for improvement; consequently wages are low and the mode of living rude and simple in proportion.

OPPOSITION TO THE INTRODUCTION OF MACHINERY.

I have expressed the doubt whether the introduction of labor-saving agricultural machinery would be profitable. Even if so to the employer,

will it be beneficial to the country? The inhabitants have sufficiently hard time now to get work and to live on their wages. The latter is accomplished only by the cheapest living and most persistent thumb scraping. Our farmers and working men have no idea or knowledge of the extent to which this is carried.

The women and children, even those of tender age, have to labor as do the men, and only by this community of wages do they support and rear their families. The introduction of machinery, by which labor could be saved, would have for its first and immediate effect a glut in the labor market, and a consequent reduction in wages. In the present fevered and excited condition of laboring classes in France this would be doubtful, if not dangerous, policy. A committee of 44 members is now sitting at Paris to consider means to avert the present depressed state of the labor market.

The average farm-hand in Europe is not a skilled workman. He is not a mechanic. He has no adaptability to other than his old ways. New and foreign machines have no attraction for him. He would view them with distrust. His management of them would be awkward, difficult, and not successful. He does his work in the same manner as did his forefathers during all their generations, known to history, and from their appearance, I should judge, with identical tools. In his daily working customs and habits he could not be changed, and especially not by machinery. I have given up all attempt at bettering the condition of the foreign working people by telling them how we do things in America. I have resigned definitively the role of missionary. They will look at me with wide-eyed wonder when I suggest that anything could be better than their way, and their politeness, or perhaps compassion, seems to prevent them from expressing their unbelief.

FARMING IN THE UNITED STATES VS. IN EUROPE.

The United States is different, in the surroundings of the farmer, from Europe. It has always had an abundance of land for agricultural purposes, a never-failing supply to respond to any demand. The Government, in selling its public domain, fixed as the price, not the value nor yet the cost of the land, but only the cost of surveying it, and for the last twenty years any settler could obtain a farm of 160 acres for the asking, on condition only that he should live on it. Land is plenty and cheap, but men and labor are scarce and dear. In Europe it is the reverse. The land is scarce and dear, but men and labor plenty and cheap.

I might remark as to the comparative quality of the labor of the two countries, but that would be another subject and aside from my present purpose.

This department does not raise sufficient agricultural produce for home consumption, and, as I have shown, the tillable land is all occupied. There can be no extension of agricultural acreage. The land used now in Europe for agriculture has been so used since long before the discovery of America. Hence the labor-saving machinery and agricultural implements so necessary and beneficial in the United States will never find the same necessity nor benefit here, and consequently their introduction be correspondingly slow and painful. Their introduction should only be attempted where the circumstances are favorable, where the land is in good condition, soil rich, wages high, and where agriculture takes a prominent rank in the economy of the country. The center of France may fill these conditions, but the Alpes-Maritimes not.

AMERICAN VS. BRITISH TRADE EFFORTS.

Extending my observations to American manufactures generally, I observe another cause for previous failures in obtaining foreign trade. It is traceable to our own manufacturers. Their efforts in competition therefor have been spasmodic and erratic. They have nearly always depended on their home market and have only sought a foreign one when that at home was dull, and then they have dropped the former as soon as the latter revived.

England, in both her commercial and governmental capacities, understands and acts upon this matter better than we. It goes without saying that her merchants are continually on the lookout for new fields of foreign commerce and her statesmen are ready to help in their occupation. This is not confined to individual effort nor to particular enterprises, but extends to grand schemes for capturing and keeping the whole trade of countries, and which are planned like an invasion and carried out like a campaign. For this purpose she will enlist an army of workmen and charter a fleet of merchantmen. She wants a foothold and neglects no chance to make her conquest complete—a conquest of trade and commerce. She looks more than we to future gain even though present profit should fail. But this is all straw which has been thrashed again and again. I desist.

HOW TO INTRODUCE AND ENLARGE AMERICAN TRADE.

It is useless for American merchants or manufacturers to make of foreign commerce a mere pastime, a make-weight, something to occupy them when trade is dull at home, and to be deserted or neglected when the revival comes. The attempt to obtain foreign trade must be by serious, persistent endeavor, undertaken with a determination to overcome opposition and defy competition.

It is useless to stand on their side of the ocean and try to poke their commerce down the throats of an unwilling, or at least indifferent, people on the other side. The distance is too great to be thus dealt with at arm's length. They must get nearer to their work if they would accomplish anything. It must be done by personal contact. It requires an American salesman to successfully sell American goods. This rule is not universal, but sufficiently so to make it a rule. No exclusively foreign agent or depot will give that measure of success in introduction of American goods to which they are entitled, and can obtain if properly and well presented.

A general agency of an established house in London, Paris, or Berlin, composed of all foreigners, for the introduction of American goods into Europe, is a snare and a delusion. To make it a success it should have an American partner or associate. Depots should be established at the provincial centers, and here the same plan should be adopted. Americans should be joined in the business with the foreigners. They should act in concert. Neither can succeed alone. One does not understand the goods and the other does not understand the people. It requires an American salesman to introduce American goods, and he must be brought in contact with the people to be supplied.

This scheme would need help, both to organize and sustain. It would not go alone, nor would it at first be self-supporting. Once started it would soon make an extensive and firm foundation. Its start would not be difficult. For instance, let the New York (or other) Chamber of Commerce for the North and the New Orleans Chamber for the South

combine with other cities of their region; combine also with the French or other foreign element in their respective cities, and, making choice of an American or French-American to represent them in the chief cities of, say, France, let them arrange for a resident partner or business man, a Frenchman, in each of these cities, and intrust to this house the sale of American goods of every desirable sort, charging it to push their introduction to the public in every legitimate manner. Let the members of the chamber furnish such goods as he desires introduced, and, joining for the purpose, guarantee their salesmen a reasonable compensation for a given time. The chambers should have supreme control, require reports and remittances at specified times, have, if need be, a traveling inspector, and demand of all concerned the strictest accountability. In a short time they would have built up an American trade which would be a source of both pride and profit. It would require, to make it a success, some time and some money. Above all it would require patience and perseverance. Its agents and employés must be of the strictest honesty and incorruptible integrity. What enduring foreign trade has ever been built up without these qualifications? I will not believe but that the United States can again, as she has before, furnish them all. It would be an opportunity for the younger sons, the junior partners, the confidential clerks, or the trusted manager of many a sterling house who would here find ample scope and due reward for their business energy and ability.

Another suggestion easier to accomplish. If the chambers of commerce of our principal cities would establish bureaus of correspondence to be furnished to the State Department and published in the consular regulations or reports so that consuls could know them; which bureau could be relied on to answer letters from foreign countries relating to trade and commerce, give information, open communication when requested with reliable houses, bring together willing correspondents or put them in the way of making small purchases, sending samples, giving prices, &c., it would be a vast benefit to American commerce abroad.

No one in the United States without experience will believe the amount of time consumed and the trouble caused in these matters which could thus be obviated. I think I wrote twenty-five letters in eight months' time on behalf of one house, a reliable one, before I received a satisfactory answer to the questions, "Can you send American wheat to be sold in French markets? If not, can you tell me who can?" The answer became my *bête noire*: "Apply to our French agents in Paris."

THOMAS WILSON,
Consul.

UNITED STATES CONSULATE,
Nice, June 2, 1884.

SOUTHERN FRANCE.

REPORT BY CONSUL MASON, OF MARSEILLES.

In response to the circular of the Department of State, requiring detailed information concerning the use of agricultural machinery in this region, and an opinion as to the feasibility of further developing the sale of improved farming implements from the United States among the agriculturists of Southern France, I have the honor to submit the following report, which is based upon personal observation and original

information collected in the different departments of this consular district.

AREA AND DIVISION OF LAND.

The territory embraced by this report includes the departments of Hérault, Gard, Vaucluse, Var, and Bouches-du-Rhône, each of which has certain peculiarities of soil, surface, and position, but the facts stated apply generally also to the adjoining departments of Aude, Tarn, Aveyron, Ardèche, Drôme, and Basses-Alpes.

The land throughout this whole region is divided generally into small farms, many of which are not larger in area than an average market garden in England or the United States. This division of the land into small lots has been greatly stimulated during the past ten years by the ravages of the phylloxera.

AGRICULTURAL PRODUCTS.

Until the appearance of that terrible scourge of the French vineyards nearly all the good land of the region was devoted to the growth of wine, which, under normal conditions, yielded an enormous revenue in proportion to the area of cultivation. The destruction of the vineyards involved the wine-growers in serious difficulties. For a few seasons they replanted their perishing vines and hoped that the blight might soon be exterminated; but as it overspread the whole country and defied all remedies they gave up the struggle, and, by planting their fields with potatoes, oats, wheat, and beans, managed to subsist from the product of their land. But in a large part of the country the soil which had been long adapted to the vine proved too thin and poor for profitable grain and root crops, and the farmers were in many cases obliged to sell part of their land to obtain means of support. Many large vineyards which had been owned by wine dealers and capitalists residing in towns and cities were sold out or leased in small lots to the neighboring peasants as soon as they became valueless for wine-culture. It is due largely to these causes that the arable land of this district is now owned in small tracts and worked in so many cases by peasant proprietors or lessees who regard the present agricultural conditions as but temporary, and are not only unable to purchase improved implements for general farming purposes, but hope that the restoration of the vine may soon make such improvements unnecessary.

Within four or five years past, the introduction of American grape roots has given a new and very hopeful aspect to the agriculture of Southern France. Those strong, healthy plants, grafted with the varieties of grape which, in past times, made the reputations and fortunes of the French wine-growers, have thus far defied the attacks of the phylloxera. At first the experiment was costly, and was begun timidly by the more wealthy and enterprising land-owners, but success has become so assured that, throughout this whole district, it may be said that the one general controlling purpose is now to reconvert their fields into vineyards. When it is considered that the necessary implements of vine culture include only a more or less rude plow, a long-handled spade, a heavy hoe, and pruning knives or shears, it will be apparent that this country must offer a poor and unpromising field for the introduction of costly or improved implements. There is, besides, in the temperament of the Provençal peasant a conservative indifference, a preference for tried and established methods, which is a damper to progressive enterprise. Tell him that the plow with which he is scratch-

ing up three or four inches of red, pebbly soil is a century behind the present time, and he will reply that with such an implement his ancestors tilled the vineyards which a generation ago made the Provençal peasantry prosperous and happy. Ah! if those days of profuse and certain vintages could only return, he would be content with such tools as he has.

AMERICAN MACHINES AND IMPLEMENTS.

There are, of course, exceptions to this. In the neighborhood of Arles, in the rich district between Lunel and St. Grilles, and about Montpellier in the department of Hérault, there are farms of one, two, and even three hundred acres, owned by enterprising men and farmed under intelligent methods. Among those which I visited was one of 360 acres, the property of a large capitalist residing at Cette. It is in the choicest wine region of that fertile department, and when purchased by its present proprietor, five years ago, had been entirely denuded of vines by the phylloxera. One field of a few acres had been replanted with American roots which cost a franc each; the remainder of the fields were devoted to wheat, oats, lucerne grass, and various root-crops. Since then the vine planting has been continued, and rather more than half the area of the place is now covered with vineyards more or less advanced toward the age of production.

In the spacious barns on this farm I found a Taylor horse-rake from Dayton, Ohio, American hay and straw forks, and a mowing machine modeled exactly after the "Buckeye" pattern of five or six years ago. This machine bore no mark except that of the local dealer at Montpellier from whom it was purchased, but further inquiry convinced me that it was made in France, and was a very perfect and serviceable imitation of the American machine.

At the establishment of the dealer in Montpellier were the light, strong, and excellent hay and straw forks of the Auburn Manufacturing Company, and imitations of them made in Germany and bearing the label "Granz & Co., Ohio." The counterfeit was apparent both from the heavier, more clumsy form of the implement, the different quality of steel from which the tines are made, and the kind of wood which formed the handle. The dealer readily admitted that these forks were of German origin and that he sold them as American goods.

At Arles were found pitchforks of American manufacture and the "White" sewing machine of Cleveland. But the farther the inquiry was pushed, the more apparent it became that the superiority of American farming machinery is understood, at least by the French dealers in such goods, and that French and German manufacturers have not only copied our most improved patterns of many implements which are required in this country, but they sell them under counterfeited American labels, or bearing marks so obscure that they can be offered by dealers as of American origin.

On the farm near Montpellier, above alluded to, and which is far above the average in respect to liberality and intelligence of its management, there were plows of various sizes and patterns, all of French manufacture. The smaller ones, used for tilling growing crops, and, by some farmers, for spring plowing, are of wood, merely pointed with wrought iron. They have but one handle, and the wooden parts are cut from the natural forks and curves of grown timber. The one heavy cast-iron subsoil plow on the place was a novelty in that neighborhood, although the proprietor told me that subsoiling those weary fields had been attended with most valuable results. "However," said he, "all

this is only temporary. These improved machines have been very efficient and advantageous, notwithstanding the awkward ways in which my men use them, but within a few years I shall have my whole farm stocked with grapes again, and then my mowing machine and my horse-rake will be superfluous."

Of meadows and pastures, the permanent grass-producing lands so common in Northern Europe and the United States, there are almost none in Southern France, except the low, wild salt meadows about the delta of the Rhone, which, by reason of their saltness and humidity, can never be cultivated. When an ordinary Provençal farmer wishes to raise hay, he sows lucerne clover, and in a good season gets two or even three crops from it, but he much prefers to devote his land to wine-growing, and purchase his fodder and other supplies.

In the immediate neighborhood of Marseilles more wheat is grown than in the adjoining departments of Hérault and Gard; otherwise the conditions are the same. The summers are long, hot, and dry, and irrigation is essential to permanent fertility.

HOW TO INTRODUCE AMERICAN IMPLEMENTS.

The principal dealer in agricultural implements in this city confirms all that has been stated above as pertaining to Arles and Montpellier. He has English mowing machines and wrought-iron plows of highly improved models, but they do not sell because they are more expensive than the ruder French implements. He has American pitchforks and garden hoes, and cheap German imitations of them, which latter are delivered here, duty paid, at $4.65 per dozen, and have a large sale. The French import duty on such goods is $1.35 per 220 pounds, and the dealers here say that if American pitchforks and garden hoes could be delivered here at or below the same price as the German ones, an immense sale could be developed, one firm declaring its readiness to give an order for a thousand dozens.

American wooden hand-rakes could also be sold here if they were made double their present size; that is, the rake-head 4 feet long instead of 2, and the other parts proportionately strong and heavy.

The thrashing machines used here are rude and primitive. In fact, much of the wheat and oats are tramped out by horses or thrashed with flails, and it is believed that a good cheap American horse-power thrasher could be introduced successfully.

But it may as well be frankly stated that all kinds of farming implements, in order to command any important sale in France, must be cheap. Superiority of quality does not count against economy of cost. The French farmer readily admits the superiority of American implements, but he cannot—or thinks he cannot—afford to secure this superior efficiency and durability at an increased cost.

The German and French manufacturers understand this, and, by keeping the prices of their implements (as well as the quality) below that of the American goods, manage to control the trade, such as it is.

If a good two-horse mowing machine could be made and delivered here for, say, 300 francs, it is believed that many could be sold, but few farmers would pay much more than that for such a machine. In short, every improvement which costs money or introduces a new method of labor must fight its way against indifference and a spirit of economy which protests against paying more for a plow or a spade than was paid for the ruder and inferior implements of a generation ago.

If American manufacturers or exporters of horse-power thrashing machines, hay, straw, and manure forks, garden hoes, and heavy, long-

bladed field-hoes suitable for vineyard use, wooden hand-rakes with heads from 3 to 4 feet in length, pruning knives and shears, and cultivators having a spread of 3 to 4 feet, will send their price-lists and propositions to this consulate, no effort will be spared to place this information where it will be most effective. Freights from New York to Marseilles are remarkably cheap, and communication by steamer is direct each week.

There is held, in summer, each year, in one of the departments of this district an agricultural exhibition or fair at which farm products, stock, and machinery are exhibited, and at which a good opportunity is offered to introduce improved implements to the notice of the better class of farmers.

A special report of this exhibition will be made from this consulate with a view of exhibiting further the condition of agricultural labor in Southern France, and the chances that may exist for the introduction and sale of American implements.

FRANK H. MASON,
Consul.

UNITED STATES CONSULATE,
Marseilles, June 28, 1884.

NORTHERN FRANCE.

REPORT BY CONSUL WILLIAMS, OF ROUEN.

FRANCE A NATION OF PROPRIETORS.

France is a nation of proprietors. It was estimated that the number of proprietors in 1826 was 4,800,000, and with their families 22,000,000 to 25,000,000. In 1879 there were 8,454,218 proprietors.

These proprietors are again divided into the following:

Classes.	Number.*	Hectares.	Average of each owner.
			Hectares.
Small proprietors	13,014,000	16,190,000	1.25
Moderate proprietors	1,177,580	18,873,000	16.00
Large proprietors	106,420	14,972,000	152.00

* A "hectare" is equal to about 2½ English acres.

Taking the round numbers of 8,460,000 proprietors, we shall see that they are subdivided thus:

Small	7,700,000
Moderate	700,000
Large	60,000
Total	8,460,000

According to the register, the average acreage per lot was, for the whole of France, 4.48 hectares; in 1851 it decreased to 3.98 hectares; in 1861 to 3.75 hectares; in 1871 to 3.62 hectares; in 1881 to 3.50 hectares; which represents a diminution of more than a fifth in half a century. This change has been going on in all the departments, without exception, but with a marked difference upon them individually. For

the year 1881, the 87 departments are thus divided according to the average acreage made by the Government authorities, and assigned to the different holdings:

	Departments.
Of less than 2 hectares	4
Of 2 to 3 hectares	22
Of 3 to 4 hectares	35
Of 4 to 5 hectares	10
Of 5 to 6 hectares	7
Of 6 to 7 hectares	4
Of more than 7 hectares	5

It is interesting to follow the movement of division of property in those parishes where the register has been entirely altered from 1828 to 1883. This change has taken place in 2,014 parishes. The results are as follows: According to the first registration 2,374,079 hectares were made taxable, divided into 6,655,275 lots, belonging to 640,836 land-owners. The new registration gives 2,407,129 taxable hectares, divided into 7,120,057 lots, belonging to 722,624 individuals. In the first case, the average acreage was 36 ares† per lot, and 3.70 hectares per land-owner; in the second case the figures are 34 ares per lot, and 3.33 hectares per holder. But if we confine ourselves to the examination of those parishes where the registration has been remade during the thirty years 1854–1883, we shall get at more striking results. According to the first registration, these parishes counted 304,470 taxable hectares, divided into 981,502 lots, belonging to 131,273 proprietors; according to the new assessment, they contain 310,751 taxable hectares, divided into 1,176,869 lots belonging to 166,349 land-owners. In the first case, the average acreage was 31 ares per lot, and 2.32 hectares per owner; it is now 26 ares per lot and 1 hectare per proprietor.

From these statistics we may conclude that the division of property, at least in the reassessed parishes, has been more marked during the last thirty years.

The breaking up of large estates possessed advantages down to a certian point by placing the land in the hands of those who cultivate it, but the frequent divisions have reduced small estates to plots of a size almost useless for agriculture. Each of the members of a family called to succeed desires to have a share of the best lands, and the law is formal in requiring the equal partition of each plot. Market-gardens, orchards, and vineyards in the neighborhood of large towns are therefore often reduced to fractions of a few perches, a considerable portion of which is lost by fences and is difficult of access. The cultivation is necessarily of a most rudimentary kind.

There is no idea of going back of the law; such a step would be opposed as a reaction against one of the greatest conquests of the revolution; but it is thought that by favoring exchanges of small patches of ground amicably, the formation of groups might serve as an antidote to the divisions. The heavy charges on the transfer of real property are, however, an obstacle to such arrangements, the registration dues amounting to 3½ per cent. of the value. It is proposed to reduce the charge to a nominal sum of ⅛ per cent., in the hope that the peasantry may be induced to round off their holdings by exchanges with each other. The sacrifice to the treasury would amount to a million of francs annually, but if the measure produced the desired effect there would be a public gain. An obstacle in the way of this arrangement is that small properties being, proportionally, a higher price than large prop-

† An "are" equals 100 square meters (nearly yards).

erties, it is considered by many that the small proprietor, aided by his family, can cultivate the land more profitably than the large proprietor dependent upon labor, the supply of which is often inadequate. The small farmer can raise his ox or cow, fatten the same, and market his products, and supply the deficiency of capital by his own labor. On the other hand, if he made a precise inventory of the profit which he derives from, 1st, the interest of the capital (always high when bought and paid for on a small scale); 2d, the cost of tools, their repairs and renewal; 3d, wages represented by the number of days that he and his family give to the farm, comparing this with what he could gain by working for another; 4th, the charges of all kinds incident to ownership: These things duly considered, he has only the doubtful advantage of independence.

However, many aspire to this laborious independence. It is computed that one-fourth of the number of agricultural workmen are proprietors of more or less land, and work alternately for themselves and others. Perhaps, confining the number to those who are owners and not tenants or merely cultivators of vegetables for family use, the number would be more exactly stated at one-fifth.

THE CONSULAR DISTRICT OF ROUEN.

This consular district, extending from Dunkirk to Calais, Boulogne-sur-Mer, and Dieppe, including the rich agricultural departments of the North, the Pas-de-Calais, the Somme, and a large portion of the Seine Inférieure, contains, exclusive of the Havre district in the latter, about 3,746,000 acres of land. Its soil is varied and adapted to every kind of cultivation, except that of the vine, and those plants peculiar to the south of France. The upper lands are stony and clayey, mixed with marl; the plains are alluvial, clayey, and rich. It has been worked very much, and though still susceptible of improvement, it is, relatively, one of the best cultivated and most fertile districts of France. The fields of the departments of the North, and the Pas-de-Calais resemble throughout nearly their entire extent the rich flat prairie lands of the United States. The property in a large portion of this district is not much divided, as in the other portions of France, and there are many large farms and forest reserves.

The mode of farming is of two kinds, one by the proprietor working his own land, and the other by leasing to a farmer. Large farming comprehends about 20 per cent. of the land, moderate 50 per cent., and small 30 per cent. in this district. It is computed that 75 per cent. of the large proprietors work their own lands; the moderate landlords to the extent of 40 per cent.; the small owners, almost without exception, work their own lands. (Not more than 15 per cent. of their number leave their lands.)

Large properties consist of 250 acres and upwards, moderate of 50 to 250 acres, and small of less than 50 acres.

PROGRESS OF AGRICULTURE.

The proprietors and cultivators are too intelligent not to advance, but improvement and advanced mode of culture have not become as universal as they should, owing to many causes, some of which can be referred to later on.

Traveling recently through this consular district, in the midst of the harvest season, not a single mowing or reaping machine or even a horse-

rake was seen within many hours' travel by railway and road, while as many women and children (if not more) as men, and of all ages, could be seen toiling to secure a crop which was generally good. In a few localities heavy rain and hail storms had lodged some of the grain so that it could only be cut with a scythe or sickle, but in most of the fields machines could have been profitably employed. I will here state what efforts have been made to introduce mowers and reapers into France.

AMERICAN AND ENGLISH MACHINERY IN ROUEN.

During the last ten or twelve years, mowers and reapers have been largely imported into France from the United States and, in a smaller proportion, from England. Most manufacturers sell their machines in France through a general agent established at Paris, who, in his turn, has sub-agents in the different provinces. There are, however, two large American manufacturers who have a direct branch office at Paris. Messrs. Adriance, Platt & Co., of Poughkeepsie, N. Y., for their highly-reputed Adriance and Buckeye mowers and reapers, and Messrs. D. M. Osborne & Co., of Auburn, N. Y., who have, like the former firm, another branch office in Germany.

Of the other manufacturers of mowers and reapers may be mentioned Walter A. Wood, of Hoosick Falls, N. Y. (ably represented in France by Th. Pilter, Paris); the Johnston Harvester Company (Paris agents, H. T. Mot & Cie.); and of English firms, R. Hornsby & Sons, Grantham, Lincolnshire (Paris agent, A. Pecard); Samuelson & Co., Banbury (Paris agent, Th. Pilter); Harrison McGregor & Co., of Leigh, Lancashire.

EXPENSE OF IMPORTATION.

The expenses to bring these machines into France from the States may be calculated as follows:

Sea freight from New York to Havre or Bordeaux, on an average $7 to $8 per 40 cubic feet; customs duty, 6 francs per 100 kilograms.

AMERICAN VS. FRENCH MACHINES.

There have been of late some efforts made on the part of the French manufacturers to build mowers and reapers, usually in copying more or less closely some appreciated American system; and I have only lately seen some copies of the Adriance Buckeye mower and the Johnston harvester. But this competition is hardly a serious or lasting one, as they cannot command the excellent material and fine workmanship of the large American manufacturers.

HANDLING OF MACHINERY AFTER IMPORTATION.

As to the handling of these machines until they get into the farmer's possession, they are shipped to Havre or other French port some time before the season, and either stored in the state "entrepôts" (duty free), from which they are drawn according to the wants of the season, or they are shipped directly to the different agents.

HOW PURCHASES ARE EFFECTED.

Purchases are mostly made on time, and the present precar
of agriculture often obliges the sellers to allow one year's ions state
more against interest. credit and

HOW MACHINERY IS IMPORTED.

Machines are mostly imported by steamers, in order to draw them from the factories at the latest possible moment.

FREIGHT ON AMERICAN MACHINERY.

The rate of freight is rather high in comparison with that paid to English or German ports, which again have much better and cheaper communications than France to the other countries of the Continent, such as Russia, Norway, Sweden, &c. The freight from New York to Havre or Bordeaux is, for instance, at least one-third higher than to Bremen and Hamburg. Therefore, as an intermediary country for sales effected in the other countries of the Continent, France does not offer the same advantages as, for instance, Germany or England.

KINDS OF AMERICAN MACHINERY AND IMPLEMENTS IN FAVOR.

Concerning the exterior of the machines, farmers certainly like in a machine neatness of finish and elegant appearance, but without neglecting the question of strength, simplicity, and durability, and it is because the better American machines combine both points that they are so universally preferred.

In addition to mowers and reapers no article of American manufacture meets with such universal favor as American steel hay and manure forks, which are found everywhere. Hay horse-rakes of American manufacture are in favor, and under the name of Anglo-American (by means of this ingenious device) more clumsy rakes are substituted, purporting to be stronger.

Small American mills for farmers' use are not excelled by any others, and find favor, while many of the less complicated machines, such as crushers, lawn-mowers, farming mills, straw and root cutters manufactured here are copies.

Portable steam-engines are made in France and England, while thrashing-machines are imported from England.

Sowers are of English and French manufacture. Hay-presses are of French manufacture, and for pressing bales from 110 to 125 pounds cost $500, and for pressing bales from 220 to 275 pounds each are $640.

Rollers, drags, and plows are largely of English manufacture. Pumps and many other articles bear the name of the vendors, and are manufactured by casting from the article itself (often of American manufacture) and an otherwise exact imitation, but the material and workmanship are seldom equal to the genuine. While it damages the inventor, it seldom assists the producer.

PROFITABLE FARMING IN FRANCE.

Undoubtedly the most profitable French farming, on lands adapted to it, is dairying and stock-raising. The strenuous efforts made by the French agriculturists to further increase the import duty on oxen to 25 francs would seem to disprove this. The import duty was raised from 3.60 francs to 15 francs. The minister of agriculture gives as a reason the augmentation in the imports of foreign cattle, but this influence is far from being felt, if we may judge by the prices of meat in the market of La Villette, which supplies Paris. The wholesale price of beef

there rose, between 1880 and 1883, from 1.60 francs per kilogram to 2.78 francs, and that of mutton from 1.80 francs to 2.6 francs.

According to the last published statistics, the production of meat in France in 1877 was 1,200,210,500 kilograms, while consumption was 1,317,071,682 kilograms. The French people were supplied with 145,000 tons of foreign meat.

Recently it was proposed to increase the duty on corn, but it was deemed advisable to tax flour alone in the interest of millions. It has been justly observed by one of the most enlightened French writers that the result of this policy of the minister of agriculture will be to starve the country. What with dear bread and meat, the interdiction of American pork, the phylloxera (which is diminishing the vintage and raising the price of wine), and sugar double the price it is in London, the working classes will find it difficult to make both ends meet. The result will be a renewal of strikes, and, without having benefited agriculture, M. Méline will have ruined industry.

The land is divided into arable, grazing, and wood.

FOREST LANDS.

There are extensive forest reserves, and especially among the rolling lands, bordering the Seine. Wood is in frequent use as fuel in the offices and counting-rooms of merchants, bankers, and professional men, and in their dwellings, while charcoal is in general use for cooking. No portion of the tree is wasted; and while the trunk furnishes timber or wood, the smallest twigs are tied up in bundles and sold by the pound for kindling purposes.

ENSILAGE IN FRANCE.

The moisture is more apt to be in excess than drought, and often injures the crop and interferes with its harvesting. This has induced many farmers to experiment in ensilage. Some enthusiasts have claimed that ensilage has great advantages over the ordinary mode of curing hay and fodder. It is, however, conceded that in this climate it is very advantageous to be able to take fodder reeking with moisture, and late clover which encounters continual rain, when cut, and secure them in such a manner as to afford healthy and nutritious winter food for stock. Nearly every large farmer has his pits, or building, prepared in case of emergency for ensilage. The great point to be considered in making ensilage is to have sufficient pressure to expel the air and afterwards to keep it out, and if this is done there is no fear of the result. Screw pressure is preferable to any other. If facilities for chaffing are at hand it is better to be chaffed. The preparation of it is not so costly as that of hay, besides the great advantages in a moist or variable climate of cutting and housing in the worst weather.

VALUE OF LAND.

The price of land varies so much throughout this consular district that, without going into more detail to explain the reasons for this variation than would be justifiable in an article of this kind, but slight information could be afforded. The expenses of manuring, &c., enter largely into account in the renting of lands, which are effected usually on a nine years' lease. In the Pas-de-Calais, for instance, lands in the district of Arras bring from $200 to $600 an acre, while in another dis-

trict, Saint Pol, wholly agricultural, which has neither river, canal, nor railroad, lands sell from $250 to $400 an acre. In the district of Boulogne, Calais, and Montreuil, lands sell from $175 to $300 an acre, with an increase in price about Calais.

DIFFICULTIES IN SELLING AGRICULTURAL IMPLEMENTS.

The difficulties which beset the manufacturer of American agricultural implements desirous of selling in France are the prejudices in favor of doing the work in the customary manner, the dread of anything like machinery or an instrument that the village blacksmith cannot repair, the ignorance of their value, and the great number of small farms, the want of money, and fear of incurring debt for something which may be of doubtful value. The mode of farming on a small scale is unfavorable to the introduction of improved agricultural implements. The farmer dares not venture his all upon any one crop, and it is observable that the vicissitudes of heat and cold, flooding, and drought interfere with the best calculations. The joint ownership of these implements would be practicable, but it needs vigorous efforts to arouse the agriculturist to their great utility and necessity. The cry is universal that agricultural laborers are too few, and still that labor is not economized by the employment of machinery, and an appeal is made to Government to place a higher tariff upon food, and the laboring man is again surtaxed for his food, and is forced to a still more meager diet.

HOW TO INCREASE THE SALE OF AMERICAN IMPLEMENTS.

The sale of agricultural implements of American manufacture could be increased by employing agents and mechanics conversant with the French language, not omitting the free circulation of illustrated catalogues.

The comparative advantages of their use once shown, a great demand would arise. Local agencies in agricultural districts should be established, well supplied with the different portions of the machine which might require to be replaced. There is a vast field for their introduction, as it would tend to do away with the bitter complaint of the hour, "scarcity of labor." A close examination of the antiquated mode of cultivation existing in France at once solves the mystery of the paralysis with which agriculture is attacked, and speaks volumes in favor of the industry and economy of the farmer who can manage to live in ignorance of all these improvements in cultivation.

The remedy is in improved machinery. The task of the American manufacturer is to prove this to the agriculturist, who will then buy.

He will be greatly assisted by the agricultural societies, whose officers labor constantly to remedy this deficiency.

CHAS. P. WILLIAMS,
Consul.

UNITED STATES CONSULATE,
Rouen, February 11, 1884.

THE GIRONDE.

REPORT BY CONSUL ROOSEVELT, OF BORDEAUX.

In reply to Department circular dated February 20, 1884, I have the honor to report as follows:

AREA AND PRODUCTS.

The department of the Gironde comprises an area estimated at 2,585,000 acres, being 160 miles in length and 200 miles in breadth. There are 870,000 acres of rolling country, 137,500 acres of sand-hills, 1,265,000 acres of arid plains, and 312,000 acres of valley land. The nature of the soil is marshy, gravelly, marly, and calcareous, well adapted to viticulture, which is the principal production of this department. Corn and wheat are produced in small quantities, mainly for the farmers' own consumption. The farms in the department of the Gironde are as a general rule very small.

AGRICULTURAL IMPLEMENTS IN USE.

The agricultural implements needed in the culture of the vine are almost entirely restricted to small plows and pumping engines, the latter being used as extensively for flooding the land to destroy the phylloxera as for irrigating purposes. On account of the character of the land, wheat is generally planted in hills, and corn between the vine-rows, consequently reapers or mowers are in very little demand. Shelling and grinding mills are to a certain extent employed. All implements pertaining to the culture of the vine and the fabrication of wine, well advertised, would, I am sure, find ready and profitable sale in this department. Plows of all kinds are employed, differing according to the nature of the soil and the work to be performed. Harrows and rollers are used on ordinary farms, but on larger ones, where the natural conditions are favorable, mechanical sowers, reapers, and binders are coming gradually into use. The French farmer is slow to adopt new inventions, and the tools and implements in general use to-day are of the most primitive design. Vine plows, presses, casks, in fact whatever is used in connection with the making of wine, are of French manufacture. Although agricultural and labor-saving implements have been exposed for sale in this department for some years, they have not until recently been a profitable investment to the importer.

IMPORTED IMPLEMENTS.

England is the most important contributor in agricultural and domestic implements and tools of all kinds, which have been judiciously placed upon the market. With the exception of saws, very small importations are made from Germany. German saws are preferred simply on account of their low price, the home article being superior in quality. American manufactures are pre-eminently superior in every respect to those of other countries, and are sought after and preferred to all others.

HOW MACHINERY IS PLACED ON THE MARKET.

The manufactures of the several countries are introduced and placed upon the Bordeaux market by branch houses and commission agents.

HOW TO INTRODUCE AMERICAN MANUFACTURES.

In my opinion the best manner of introducing them to and gaining the confidence of trade is by establishing local depots at such places as Agen, Bayonne, Bordeaux, Libourne, Pau, and Toulouse, where samples of corn and cob-crushers, corn and wheat mills, corn-shellers, plows, harrows, farm-fans, hay-cutters, cutting machines, thrashing machines, sulky plows, portable and stationary engines, hoisting engines, scythes, axes, spades, hoes, rakes, in fact domestic and mechanical tools of all kinds can be permanently exhibited and orders received. This can be done by individual firms or by the joint enterprise of firms not competing with goods of the same class, and by the employment of active, pushing agents, knowing well the French language.

Implements and tools should bear the manufacturer's name, and all illustrated and descriptive catalogues should be printed in French. Under such conditions there is no reason why our manufactures should not hold the first place on the French market, especially as there is a decided preference for them.

ENGLISH IMITATIONS OF AMERICAN MACHINES.

I am informed that it is difficult to sell manufactures of other countries when those of America are obtainable. English manufacturers have placed a great many agricultural implements on this market under the name of "Anglo-American," bearing as nearly as possible an identical resemblance to the American article. These implements, as also all small utensils necessary to a farm, as well as bricklayers', stone-cutters', and carpenters' tools, are introduced through the medium of agents.

AMERICAN VS. ENGLISH TOOLS AND IMPLEMENTS.

American axes and hatchets are considered superior to English make in quality, durability, and finish. The sale of American hardware is yet in its infancy, and should more attention be directed to this special branch, a large and profitable trade could be established. Trial orders of tools from the United States have been received from time to time, invariably resulting in satisfaction and approval.

HOW PURCHASES ARE MADE.

In cities, towns, and country business is generally conducted on a credit system of ninety days. When cash sales are made, a discount of 2 to 6 per cent. is allowed. Occasionally long credit, with 3 per cent. interest, is extended. Farmers sell and buy cattle at fairs for cash. Crops are disposed of and agricultural implements bought on credit extending from thirty to ninety days.

HOW MACHINERY IS IMPORTED.

Foreign manufactures are sent direct by steam vessels to the respective agents, and, with the exception of cheaper rates of freight arising from closer proximity to France, do not possess any advantage over those of America. American exporters can ship direct to this port from New York by the Bordeaux Steamship Company, at present making regular semi-monthly voyages.

ENGLISH VS. AMERICAN TRADE EFFORTS.

The French farmer, being of careful and frugal habits, is long in accepting new innovations, and must be thoroughly satisfied before investing his money that he is getting in return a full equivalent. He looks well to the merits, finish, and durability of an article before buying, and those implements combining lightness, fine finish, and unimpeachable quality, attract and find quickest sale. By assiduous attention English manufacturers have controlled this market for the past ten years. Their agents are active, hard workers, and offer many flattering inducements to advance trade. I lately had occasion to see at a fair in this city samples of agricultural implements and tools sold in this and neighboring departments, and though I saw many familiar American inventions, none were so represented. Such well-known implements as the McCormick reaper, mower, and binder, and many others equally well known, were exhibited as "Anglo-American," or under the name of the agent or firm-name of the exhibiting house. As I have before mentioned, there is little need of agricultural implements in the department of the Gironde. There is, however, quite an extensive business carried on with the neighboring departments.

IMPORTERS OF AGRICULTURAL IMPLEMENTS.

The following-named firms import agricultural implements and tools: C. F. Bouilly, rue d'Arés, 94 and 96, Bordeaux; H. T. Mot & Co., route de Bayonne, 5, Bordeaux; Henry Mothes, fils & Co., route de Toulouse, 142, Bordeaux; Th. Pilter, rue St. Romain, 9 Bordeaux; G. Primat, rue d'Arés, 86 and 88, Bordeaux; Paul Francy, Dijon, deparment of Côte d'Or.

The above-mentioned firms sell American reapers, mowing machines, harvesters, binders, and lawn-mowers from the establishments of W. Nicholson & Son, McCormick, D. M. Osborne & Co., Johnston, M. C. Ogden, and the Buckeye & Adriance Company. They import, however, most of their implements from England, but would be glad to accept agencies from American manufacturers.

DUTIES.

Manufactures coming direct from the country where manufactured pay the following duties, viz: Iron tools, $2 per 200 pounds; iron and steel, $3 per 200 pounds; copper and steel, $4 per 200 pounds; agricultural implements, $1.20 per 200 pounds. An extra duty of 70 cents per 200 pounds is charged on the above-named goods if coming indirectly into Bordeaux. Freight charges on agricultural implements, machinery, and hardware direct from New York to Bordeaux, via Bordeaux Steamship Company, $7 per 40 cubic feet.

As far as I am informed, the manufacturers of other countries do not enjoy any advantages which are not shared by those of the United States.

GEO. W. ROOSEVELT,
Consul.

UNITED STATES CONSULATE,
Bordeaux, June 11, 1884.

CONTINENT OF AMERICA.

NORTH AMERICA.

DOMINION OF CANADA.

PROVINCE OF ONTARIO.

CHATHAM.

REPORT BY COMMERCIAL AGENT BUFFINGTON, OF CHATHAM.

I have the honor of making the following report in response to the agricultural machinery circular of February 20, 1884:

AREA, CROPS, PRODUCTIVENESS, ETC.

My information on this subject is applicable to the greater portions of Essex, Kent, and Elgin and portions of Middlesex and Lambton Counties, in which there is found to prevail a general uniformity of system of cultivation and crops grown.

The soil is rich and fertile, generally speaking, and that portion of it brought under the plow in excellent condition. Its nature varies in localities from the sandy or gravelly loam of the shore regions to the heavy, tenacious clay of the Thames River Valley, and the light sand and muck of North Kent and the ridges of Lambton. It may be said that a rich clay loam predominates. All—with the exception of small areas of marsh—is capable of cultivation. Even these marshes are being reclaimed by means of dikes, ditches, and steam pumping-wheels.

The greater portion of the area included in this report is rather flat, and underdraining is necessary to secure the best crop results. To that the farmers are devoting special effort; but as it is all done by hand it is slow, laborious, and expensive. If the skill of the American agricultural implement inventor could solve the draining problem, he would find a good field here.

The average size of farms is 100 acres; the range being from 50 to 300 acres. Smaller farms, more thoroughly cultivated, is the tendency.

The crops chiefly cultivated are wheat, corn, oats, beans, barley, rye, buckwheat, peas, potatoes, beets, mangolds, carrots, parsnips, turnips, and the grasses, chiefly timothy and red clover.

IMPLEMENTS IN USE.

The most improved kinds of seeding, cultivating, and harvesting implements and machinery are eagerly sought after. A very extensive variety is manufactured here, but, notwithstanding the high tariff, there is a goodly representation of American makes. American pattern plows

and self-binders are the favorites, on account of their superiority in model and workmanship, combining the three desirable features, strength, lightness, and handsome finish.

SYSTEM OF SALE.

The sale of agricultural implements is generally conducted by local and general agents. Some reliable local man in a neighborhood is supplied on commission, and, being acquainted, he is in a good position to exert his efforts where they will be most productive of good. Almost any man of business can be induced to take hold of such a branch if the commodity to be handled is guaranteed by the maker, and the profits are likely to be an object. The fact of the wares being of foreign manufacture would not interfere if the prices (quality considered) were favorable. In addition to these local agencies, the Canadian makers each have general agents, who travel and control the sub-agencies. Machines are usually put in the field and sold after test.

SYSTEM OF PURCHASE.

Although the cash system is becoming more general, by far the greater number of sales, particularly of expensive appliances, are on credit, more or less extended, varying from six months to a year. There are, however, comparatively few of the class who purchase such whose paper is not readily negotiable at a nominal discount.

WHAT THE FARMERS WANT.

The essentials in machinery for this locality are: Strength, without cumbersome weight; ease of working; rapidity of execution, by way of economizing in time and wages; durability; elegance of style and beauty of finish.

MANNER OF IMPORTATION.

The importation of American agricultural appliances is much interfered with by the action of the tariff, which on such levies 25 per cent. ad valorem; but as the Canadian makers fix their prices nearly to the figure at which American implements are sold, plus the duty, there are still considerable importations. Where the prices can be made to compete after allowing for the duty, agencies can be readily established. I am of opinion, however, that while the present arrangements exist a large trade in these lines cannot be hoped for. In the particular line of ditching machinery there is nothing that supplies the need of the locality, and I have no doubt that there is here a good opening for disposing of such if an implement capable of cheaply and efficiently performing the work now done by hand were placed on the market.

W. C. BUFFINGTON,
Commercial Agent.

UNITED STATES CONSULATE,
Chatham, April 14, 1884.

COATICOOK.

REPORT BY CONSUL CRAWFORD.

AREA AND PRODUCTS.

In compliance with the request contained in the Department of State circular relating to agricultural machinery, I have the honor to state that the country embraced in this report is designated the "Eastern Townships of Canada." They are the towns in the province of Quebec bordering on the States of Vermont and New Hampshire.

The inhabitants of these towns are largely American in their tastes and habits. A large proportion of the English-speaking people are from the United States, or descendants of Americans who came here at an early date. It is, strictly speaking, an agricultural community, with some mining and manufacturing industries that are being rapidly developed.

The country is divided into small farms, with a rich clay loam soil that produces an abundance of the finest grasses, and the whole country is well supplied with pure water.

Cattle-raising and dairying receive the principal attention of the farmers. Oats and potatoes are the most important cultivated crop.

The sale of butter (which is excellent in quality), cattle, and hay is the main dependence of the farmers for ready cash.

The hay crop so much exceeds the home demand that large quantities are annually exported to the United States.

The soil produces grass so naturally that less attention has been paid to fertilizing than is given in the Eastern States, yet every year sees an increased disposition to save and apply manure to their lands.

MODE OF CULTIVATION.

The people being American in their habits, the mode of cultivation is about the same as in the States. With a few exceptions the farmers are ready and willing to adopt improved implements, and are disposed to try any they think will tend to lighten the labor of the farm.

AMERICAN TOOLS AND IMPLEMENTS.

American tools and implements are preferred and used when they can be procured, and in all cases American manufactures are sold, or those of American patterns.

COUNTERFEITING AMERICAN MANUFACTURES.

I am informed by those dealing in agricultural implements that customers universally call for American shovels, American axes, American hoes, &c. This demand for American tools is so great that some Canadian manufacturers, in order to dispose of their implements, endeavor to mislead the people by placing deceptive labels upon their tools. They are careful not to put upon either the implement or upon the label the name of the maker or the place of manufacture, but the labels would convey the idea that they were of American make.

The tools bearing these labels are of an inferior quality.

I inclose two labels, taken by myself from shovels manufactured in the Dominion. In neither case could I tell where the shovels were

manufactured, but was informed that inclosed label A was from a shovel manufactured in the province of Ontario, and label B from a shovel made near Montreal. Other tools are treated in the same manner.

A.—Label taken from a shovel made in Ontario:

MANHATTAN
SHOVEL CO.
NEW YORK
Solid steel.

B.—Label taken from a shovel made near Montreal:

U. S.
STEEL.

There are manufacturers of agricultural implements in Canada who are willing their goods should stand on their merits, and are not ashamed to let the public know where they are manufactured

Notwithstanding this attempt to deceive, those who have used the Ames shovel or any other American tool are not misled. The finish of the tools is so inferior that it needs no expert to discover this deception.

This attempt to put upon the people an inferior article and palm it off as American may for a time tend to injure the reputation of American tools among those who are not familiar with them, but in the end the people will learn to "trust not servants who mislead or misinform them."

Plows and mowing-machines are manufactured in Coaticook that are American in pattern and name.

The retail dealers get their supplies in most cases direct from the manufacturers. Some procure them from wholesale dealers in Montreal.

If there are any implements adapted to this section of the Dominion that have not yet been introduced, the best way to reach the farmers is by placing them with the retail dealers.

AMERICAN PLOWS.

As all imported farm implements are from the United States, they are imported by rail.

There are those who have not been familiar with the stylish make-up of American tools whom it is difficult to convince that they can have strength without bulk or heaviness, but this prejudice soon wears off.

There is a deep-seated prejudice connected with the plow that seems to so cling to the agriculturists that it is almost useless to try to convince them of their error.

Before the plow had reached the degree of perfection which it has at the present time, it required the whole strength of the plowman to keep

it from running to land, or from running out. To make the labor of plowing easier, the handles were made very long, some 6, 8, and even 10 feet. This gave a greater lever purchase, and made the labor much lighter. Since the plow has been so perfected as to stand and run alone with no guide by the handles, there remains no necessity for these long ungainly handles, that are very inconvenient in turning at the end of fields, and where there are fences, as is usually the case, necessitating the plowing of headlands. At the present time, in order to sell their plows, the American, as well as the Canadian manufacturer, must supply their plows with these "Scotch" handles.

LABELS, CATALOGUES, ETC.

It is, in the opinion of dealers, quite important for manufacturers to have the name and location of manufactory either stamped upon the tool itself or upon the labels. It would be better to have them upon both.

In the province of Quebec all legal business is done in both French and English. All laws and public notices are published in both languages, and in a community where only French is spoken there would be but little use to circulate catalogues in English. Where both languages are spoken the labels and catalogues should be in both. They should certainly be in the language of the country.

CANADIAN DUTIES.

The duties on all agricultural implements imported into Canada is 35 per cent. The valuation is upon the wholesale price, and it is quite important that the circulars and catalogues—if they give any prices—should not mislead the customs officers by printing prices far above the value of the implement.

Under the present customs regulations every shipment should be accompanied by certificate of the manufacturer or dealer that the invoice is true, and contains a true and full statement of the value of the goods.

CANADIAN TAXES.

All taxes in the Dominion are levied and collected upon real estate. Personal property of all descriptions is exempt.

This law weighs heavily upon the farmers and small real-estate owners, and has a tendency to keep the agriculturalist from making that advancement and development he would if the *dollar* as well as the *acre* bore its proportion of the burdens of government.

J. Y. CRAWFORD,
Consul.

UNITED STATES CONSULATE,
Coaticook, May 8, 1884.

HOW PURCHASES ARE MADE.

For implements and machinery largely on time.

PREFERENCE IN REGARD TO MACHINERY, TOOLS, IMPLEMENTS, ETC.

They wish the best in finish and lightness, without, however, losing sight of strength. There is probably no respect in which the farmers have made greater progress for the last few years than in agricultural instruments. I think, however, as I previously remarked, that their proximity to and intercourse with the United States have educated them up to their present standard.

I should consider it decidedly advisable "to have the names of manufacturers and their places of manufacture, together with labels, illustrated catalogues, &c.," in the language of the country, to accompany all exportations of implements, as these are considered as so many advertising agencies.

DEALERS IN AGRICULTURAL IMPLEMENTS.

There are several reliable men and firms engaged exclusively in the manufacture of agricultural implements—Mr. Johnson Beatty, Captain McLean, and Messrs. Moon & Barkwell, all of Port Hope—who would be willing to import, provided, to use their own expression, "there is money in it."

About the only country from which importations are made is the United States, and not very much from it, as they are beginning to depend upon themselves.

Importations from the States are direct, both by rail and water, and the expense not large.

JACOB C. DUTCHER,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Port Hope, Ontario, May 16, 1884.

SHERBROOKE.

REPORT BY CONSUL PARKER.

THE CANADIAN TARIFF.

In response to the inquiries relative to farm machinery embodied in the circular of February 20, 1884, there seems to be very little that can be said that would be of advantage to American manufacturers, for the reason that, for the protection of the manufacturers of Ontario, Quebec, and perhaps other provinces, the Dominion Government has levied such excessive duties upon imports of farm machinery and implements that they are to all practical purposes prohibitory. Under this system of protection numerous firms have entered the field of farm machinery and implements in both Ontario and Quebec, which make very clever imitations of such American machines and implements as are best suited to the needs of the Canadian farmers.

FARMING AROUND SHERBROOKE.

As farming operations in this country are restricted, by the shortness of the seasons, to hay, spring-sown grains, and root crops, the require-

ments of farmers do not demand such a variety of machines and tools as is needed in our more favored latitudes. The implements and machines made by Canadian firms embrace plows for breaking the soil, harrows, pulverizers, and rollers for putting it in condition, and drills and seeders for planting it; reapers and mowers, one and two horse, for cutting the grain and hay; and rakes, both sulky, spring, tooth, and revolving, to facilitate the work of haying, &c.

CANADIAN VS. AMERICAN MACHINES.

These goods are, in the main, very well suited for the purposes intended, and in some cases are made by American firms or branches of American houses that operate on this side of the line. With the exception of some very good patterns of wheeled or sulky breaking plows, I have seen no breaking plows in Canada that seem to me to compare either in adaptability to the required work, lightness of draught, ease of handling, or quality of workmanship to those made in the Western and Middle States, and many of the best farmers of this province use the awkward Scotch plows that put the plowman 20 to 25 feet behind his team and require a driver in addition to the plowman.

Hay tedders, some patterns of hay rakes, and a few other machines of American manufacture are sold here by the local dealers, because nothing is made in Canada that seems to so well supply the places of these articles. In the matter of scythes, forks, shovels, hoes, and similar small implements, the principal dealers of the "Eastern Townships" inform me that at least 50 per cent. of all they sell is of the manufacture of the United States. The most extensive manufactory of scythe snaths in the Dominion is located at Sherbrooke, and is owned and operated by Vermont people. Their goods are precisely the same as those manufactured by the snath companies in the United States, except that a very large per cent. of the Canadian trade requires a much cheaper and less serviceable snath than could be successfully put upon the markets of the United States. The quantities of grain raised in this province are so limited that self-binding reapers and large thrashing machines, either for horse or steam power, are not needed, and hence only the smaller reapers are used, and the thrashing is done upon the little one and two horse tread-power or endless chain machines, which are, I think, mostly of New York manufacture, and consequently pay the heavy Canadian tariff.

HOW MACHINES AND IMPLEMENTS ARE PURCHASED.

Farm implements and machinery are sold here in the same manner as in the United States—by live, active local dealers and agents. The people are great admirers of American machines and tools, and but for the tariff rendered necessary by the needs of the Dominion Government would be very liberal purchasers of our goods and machinery.

HOW TO INTRODUCE AMERICAN MANUFACTURES.

The local dealers of Sherbrooke and other points in this consular district, which embraces about 4,000 square miles of territory, are ready and willing, I think, to put all American implements and machines upon the market, and push them vigorously, that can afford a profit after paying the Canadian tariff dues. American churns and sewing machines

and some patterns of washing machines and rubber wringers are sold here in good quantities, while our saws, axes, and tools of that class also hold their place in the market here at least on an equal footing with those of English and Canadian workmanship.

BENJ. S. PARKER,
Consul.

UNITED STATES CONSULATE,
Sherbrooke, May 14, 1884.

PROVINCE OF QUEBEC.

ST. HYACINTHE.

REPORT BY COMMERCIAL AGENT FISH.

AREA AND PRODUCTS.

In response to circulars from the Department of State I have the honor to report as follows:

The St. Hyacinthe consular district embraces an area of 1,750 square miles, and is divided mostly into farms three acres in width by thirty in length. The soil is mostly heavy clay, and the country being very flat, surface drains are necessary for the removal of surplus water from the farms.

Such drainage we find partially applied. The clay soil is strong and produces good crops of grain when it can be properly cultivated; but the uncertainty of being able to put in a grain crop in proper season, on account of the late springs and the surplus water on the land, renders it more desirable for grazing and hay-raising purposes, to which farmers are giving more attention than formerly they have done. Hence the shipments of hay from this consular district to the United States are increasing to a considerable extent.

AGRICULTURAL CONDITION OF DISTRICT.

The agricultural condition of this district is largely that of land that has been cultivated for a long time in rather a superficial manner, by using repeatedly the top soil by shallow plowing. I think what their farms need is good, thorough subsoil plowing to restore them to their former productiveness.

AGRICULTURAL IMPLEMENTS IN USE.

The farmers are fast availing themselves of the benefits of improved agricultural implements. Within this consular district the sales of such implements during the year of 1883 were as follows:

	Horse-power.
Thrashing machines	65
Reapers	211
Mowers	75
Rakes	400

The thrashers were manufactured in this place (St. Hyacinthe); also a large part of the rakes.

The reapers and mowers were mostly made in the province of Ontario. The construction of these implements differs but little from those

of American manufacture; in fact, the same workmen are frequently changing from American to Canadian factories, and *vice versa*.

A large number of plows and fanning mills have also been manufactured and sold here.

HOW TO INTRODUCE AMERICAN IMPLEMENTS.

It may fairly be presumed that a good proportion of implements of American manufacture might be sold here if the manufacturers could afford to pay the duties and place them on the market at prices as low as those of Canadian construction. I think the best way to introduce American implements here would be to place them in the hands of resident agents for sale.

Such implements are selling for cash, and also on credit of from one to three years.

MANUFACTURING IN ST. HYACINTHE.

The extent of manufacturing industries in this city remains about the same as was reported by my predecessor in October of 1882, with the exception of one boot and shoe factory just established here with Canadian capital, the city agreeing to pay the company a bonus of $2,700 annually for five years, in consideration of which the company contract to employ laborers to the amount of $30,000 for the same length of time.

I find that the prices paid for labor declined during the years of 1879–'80 and 1881 from 15 to 20 per cent., and since 1881 have risen again to compare favorably with former times.

ALLEN FISH,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
St. Hyacinthe, May 6, 1884.

GASPÉ BASIN.

REPORT BY CONSUL HOLT.

In response to the inquiry forming the subject-matter of Department circular dated February 20, I beg to say that the only portion of this sparsely settled consular district which may be said to possess any importance agriculturally is that bordering on the Bay de Chaleurs, where the farms are in good condition, the soil being fine and productive for the short season.

The agricultural machinery and implements in use are almost wholly of Canadian manufacture, introduced by agents and sold for cash and on time. The make and style preferred is light and strong. The American manufacture has a preference, but the heavy cost of importation, 35 per cent. customs duty, is a barrier to its introduction.

GEO. H. HOLT,
Consul.

UNITED STATES CONSULATE,
Gaspé Basin, April 26, 1884.

PROVINCE OF NOVA SCOTIA.

REPORT BY CONSUL-GENERAL FRYE, OF HALIFAX.

AMERICAN IMPLEMENTS IN NOVA SCOTIA.

Agricultural implements and machinery of American manufacture are now imported into Nova Scotia only to a moderate extent. This is not because they are objectionable in quality or style, or because they are not considered adaptable to the wants of farmers here, for their merits and fitness are fully recognized, but it is owing to the high Canadian tariff on such articles and to the fact that they are now being so largely manufactured in the Dominion. American hand implements in limited quantity are imported for the use of such farmers as prefer them to any others, and occasionally, as I am informed, an American mower is purchased in preference to the Canadian at a lower price; but the trade is decreasing year by year as the facilities for manufacturing in Canada increase.

DUTIES ON AGRICULTURAL IMPLEMENTS.

The duty on agricultural implements is 35 per cent., and importers complain that practically it is considerably more than that, owing to the high dutiable value upon which the duty is assessed. It is understood that prices of American manufactures sold for exportation are lower than to buyers for the market at home; but in the matter of duties, which the Canadian importer must pay on the entry of his goods, this is of no advantage. Under the customs laws of the Dominion the dutiable value "must be that at which the goods are sold for home consumption in the country where they are purchased." It must be that "prevailing in the principal markets" of that country, and "current at the date of the exportation to Canada," and "the usual and ordinary *credit* and not the *cash* value, except in case of articles known to be usually sold for cash only." There is also added to the market value the cost, if any, of inland transportation, shipment, and transshipment, with all the expenses incurred, from the place of manufacture, whether by land or water, to the vessel in which shipment is made, either in transitu or direct to Canada, subject to such regulations as may be made by the authorities.

SOIL AND PRODUCTS OF NOVA SCOTIA.

With the probabilities so greatly against an increase of the trade in American implements and machinery for agricultural purposes, for the present at least, information upon the other points named in Department circular of February 20, 1884, may be unimportant. It may be stated, however, with reference to Nova Scotia as an agricultural district, that although a large part of its territory is rough and rocky and totally unfit for farming purposes, other large portions contain soil of the finest quality. Much of the land is free from stones, easy to work, and highly productive. This is especially the case with much of the soil in the Annapolis Valley, and of the best of the diked lands, of which there are thousands of acres in the province. The seasons are short,

but vegetation grows rapidly. Oats, potatoes, and apples are the leading productions. Orcharding is receiving much attention, and is a great and profitable business.

For the most part the farms are of moderate area, like the farms in New England. Improved machinery is considerably used, and while old methods and styles are not yet obsolete, the demand for the latest and best is increasing. Such styles as are most in demand among the farmers of the Eastern States would probably have the preference here.

It would be gratifying to be able to report more encouragingly as to the prospects for the sale of American machinery and implements here, but dealers in such merchandise, many of whom have imported considerably in former years from the United States, agree in saying that the trade has greatly fallen off and is not likely to be revived.

DEALERS IN AGRICULTURAL IMPLEMENTS.

Among the principal merchants who deal in agricultural implements in this province are Messrs. Chipman Brothers, William Robertson, W. B. Reynolds & Co., H. H. Fuller & Co., Black Brothers & Co., George E. Smith & Co., of Halifax; W. N. Zwicker, Lunenburg; S. Crowell & Co., and Spring, Eakins & Co., Yarmouth; A. W. Corbett & Co., Annapolis; E. W. Dimock and Wilcox Brothers, Windsor; Chambers Brothers & Co., Truro; Dunlap Brothers, Amherst; McGregor & Co., New Glasgow, and Dawson & Gordon, Pictou.

WAKEFIELD G. FRYE,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Halifax, June 9, 1884.

PROVINCE OF NEW BRUNSWICK.

REPORT BY CONSUL WARNER, OF ST. JOHN.

AREA AND PRODUCTS.

The province of New Brunswick contains, in round numbers, 18,000,000 acres of land, 10,000,000 acres of which have been granted to railway companies, land companies, and settlers. Of these granted lands, about 3,800,000 acres are occupied for farming purposes, of which about 1,250,000 are improved, and about two-thirds, or 850,000 acres, of the improved land being under cultivation. About one-tenth (34,000) of the population own farms of from 10 acres up, only about 3,000 of whom own more than 200 acres each. Near 300,000 are devoted to the hay crop, 51,000 acres to potatoes, 40,000 acres to wheat, and the balance to oats, buckwheat, barley, peas, beans, turnips, and other roots. The farms are generally small, averaging not more than 150 acres each in extent. The nature and productiveness of the soil vary much, large portions of the province being of geological formations which are not adapted to agricultural purposes; other portions are very fertile and easily cultivated.

The surface is intersected by a great number of rivers, some of them large. These are bordered by extensive tracts of rich intervale lands,

which are more or less flooded every spring, and by the alluvial deposit are made very rich and productive, yielding large crops of hay. Westmoreland County in this province contains extensive tracts of diked marsh, which yield heavy crops of hay.

The agricultural condition is not good, lumber being the great industrial interest. Farming, I think, is looking up in the last few years, evidenced by a more general appreciation of good machinery and improved tools. The character of the lands being very like much of New England and in close proximity thereto, the mode of cultivation and character of products are much the same.

CANADIAN MACHINERY AND IMPLEMENTS IN USE.

The agricultural tools, implements, machinery, &c., employed are mowing and reaping machines, horse-rakes, grass-cradle and busto scythes, scythe snaths, grain cradles, hay, straw, manure, potato and spading forks, hoes, hand-rakes, and almost every ordinary farm tool. Seed-drills, hand and horse, are coming into use.

So zealously is the sale of mowing machines and horse rakes pushed by Canadian manufacturers or their representatives that few farmers are allowed to think themselves too poor or their land too rough to own and use those appliances. It is estimated that about 50 reapers, 800 mowers, and 1,000 horse rakes are sold each year in the province. These are some facts to indicate the greater interest and intelligence shown by the farmer.

FOREIGN TOOLS AND IMPLEMENTS.

Foreign tools and implements are very little used. English and other European styles and patterns are not adapted to the requirements of this country. Besides which the freight from Europe upon articles so bulky, when added to the duty, renders the cost of importation prohibitory. Importation of foreign manufactures in the shape of anything in the line of agricultural implements above what may be designated hardware, is practically confined to such implements as are imported from the United States, and this importation principally consists of the ordinary farm tools, new inventions, and improved implements not yet manufactured in Canada.

AMERICAN VS. OTHER MACHINES.

No comparison can be drawn between American manufactures in this line and those of other foreign countries, because there are none of the latter in the market. But the American manufactures compare very favorably with those of domestic manufacture, and farmers are generally willing to pay a somewhat higher price for an implement or machine of American than of Canadian make of same pattern. As by far the greater portion of all the agricultural machines and farm implements sold in the province are manufactured in Ontario, they too may be considered in a certain sense as imported, and in fact are so looked upon by a large portion of the purchasers.

SYSTEM OF PURCHASE.

The manufactures of Canada are chiefly sold through agencies, the principal makers having branch houses or general agencies established at some central point here, while the business is carried on by local agents throughout the province.

HOW TO INTRODUCE AMERICAN MACHINES.

The best method of introducing American implements, such as could compete in price with Canadian manufacture notwithstanding the duty, or such as will meet with no competition because of their not being manufactured on this side of the line, would be to place them in the hands of the most reliable firm already engaged in the business as above described.

BUSINESS HABITS.

The business habits of the people are much the same as in the United States, except that much longer terms of credit are customary. The great bulk of all agricultural implements are sold to the farmer on credit; the competition among the manufacturers being so great, it has led to the extension of credit to an unreasonable length, sometimes to three or four years.

HOW MACHINES ARE PLACED ON THE MARKET.

Manufactures in this department, even when purchased by importers, are usually handled on commission from time of landing until they reach the farmers' hands. They are imported from the United States by steamer, rail, and sailing-vessels. Freight from Philadelphia, New York, or Boston is now about as low by rail as by steamer or sail for this class of merchandise. All other foreign countries are at a great disadvantage as compared with the United States in this respect.

WHAT THE FARMERS WANT.

The taste of farmers in regard to machinery and tools is exactly similar to what prevails in the United States. They like to have them as light as possible, consistent with strength, and admire neatness and stylish finish.

No particular efforts have been made by the manufacturers of other countries to introduce their goods and but few of them are on the market.

IMPORTERS OF AGRICULTURAL MACHINES.

Messrs. Tippet, Burditt & Co., of this city, are extensively engaged in the importation of agricultural implements. Their trade extends to and includes Nova Scotia and Prince Edward Island. They do the largest agricultural-implement business of any firm in the maritime provinces, and are the heaviest importers of American implements.

EXPENSES INCIDENT TO IMPORTATION.

Expenses incident to importation, on implements coming from the United States, would average about 45 per cent. on the first cost of the same to the importer. The Canadian import duty, now 35 per cent. on all agricultural machines and implements, is the same from whatever country the importation may be made, no exception being made in favor of Great Britain or any other country, while in the matter of freight and other charges the United States have the advantage over all other countries. The additional 10 per cent. duty imposed last spring at the instigation of Canadian manufacturers, to enable them to hold the

trade of Manitoba and the Northwest Territories, was intended to be prohibitory, and practically is so so far as any implements which are manufactured in Canada are concerned. There are, however, many implements of recent invention manufactured in the United States, which are not as yet produced in this country; for these there would be nearly as good a market here as would be afforded by a similar extent of country and equal population in the United States, provided they could be sold here at about the same retail prices.

COUNTERFEITING AMERICAN MACHINERY.

In this connection it should be mentioned, however, that Canadian manufacturers are great pirates of American inventions, and it might be expected that as soon as a demand was created in this country for any new implement, some Canadian manufacturer would start making it, unless protected by Canadian patent. The lesson which will suggest itself to American manufacturers from this is, that all new inventions brought out in the United States should also be patented in Canada. The Canadian patent laws are very similar to those of the United States, the two most important provisions as affecting American manufacturers being (1) that a patent cannot be obtained in Canada for any invention already patented in the United States unless applied for within one year of the date of issue of the American patent; (2) that to hold a patent valid in Canada, manufacture of the patented article must be commenced within the Dominion in not less than one year after the issue of the Canadian patent. It will be seen from this that Canadian manufacturers are well protected, but that if American manufacturers take proper measures to guard their interests they may, in lieu of a profit on export trade, obtain from the Canadian manufacturer a royalty for the use of patents such as are of real practical value.

D. B. WARNER,
Consul.

UNITED STATES CONSULATE,
St. John, April 14, 1884.

ST. STEPHEN.

REPORT BY CONSUL LANGE.

In answer to circular of February 20, ultimo, in relation to agricultural machinery, after a careful investigation of the subject, I beg leave to report as follows:

Since the introduction of the protective tariff in 1879, the manufacture of agricultural machinery has been greatly developed and increased in the Dominion of Canada. There is only a very limited number of American farm implements at present sold in Canada. Manufactories of these implements have been established throughout the provinces and supply the demand at the present time. The articles manufactured here resemble in style and finish the American manufactures, and only a few articles are imported from the United States on account of their superiority. These are scythes, spades, shovels, hoes, hay and dung forks, hand rakes, and thrashing-machines.

With the help of the present protective tariff of 35 per cent. on agricultural implements, and by the strenuous efforts made by Canadians

for the manufacture of superior articles, the importation of American implements will, in a very short time, be a thing of the past. The following business firms in St. Stephen are at present engaged in the sale of the above-named articles of American manufacture: H. E. Hill, J. B. Robinson, F. Murchie, Chase, Barker & Co., J. M. Murchie, and Todd Brothers.

In conclusion I would like to state that the so-called new policy or protective tariff reform has created a very marked change in the Canadian industries. Sugar refineries, cotton mills, boot and shoe factories, machine shops for the manufacture of locomotives, steam-engines, waterworks, cotton-mill machinery, agricultural machineries, and all sorts of implements have sprung up all over the provinces and are generally doing a lucrative business, and have given employment to thousands of men and women.

Mechanics and laborers who formerly eked out a scanty living are now earning good wages, and many of them are enabled to save a portion of their earnings for days of sickness and old age.

PAUL LANGE,
Consul.

UNITED STATES CONSULATE,
St. Stephen, April 26, 1884.

MEXICO.

NORTHERN MEXICO.

REPORT BY CONSUL-GENERAL SUTTON, OF MATAMOROS.

AREA AND POPULATION.

The extent of territory embraced in this report is Northern Mexico, that portion lying north of a line from Guaymas to Tampico. The areas and population may be approximately stated as follows:

States.	Area.	Population.
	Square miles.	
Chihuahua	96,068	220,000
Coahuila	64,220	125,000
Nuevo Leon	27,040	210,000
Sonora	78,788	141,000
Tamaulipas	28,580	141,000
Part of Durango, Zacatecas, and San Luis Potosi	65,080	200,000
Totals	360,376	1,037,000

SOIL AND PRODUCTS.

Of this area probably about two-thirds is suitable for grazing. Nearly one-third is mountains or barrens. A small portion, such as "vegas" or bottom lands, is good for cultivation. Nearly all, if not the whole of this must be irrigated.

If the supply of water, now so meager, could be increased, vast tracts, now only fit for grazing, could be made very productive, and much of the barrens made good grazing lands.

As shown by the division above, this is a mountainous country. Nearly everywhere, except along the hot coast lands of Northeastern Tamaulipas, the mountains are always in sight.

WATER-WAYS AND IRRIGATION.

There are no navigable rivers of any value except the Rio Grande for 200 miles, and some short streams in Southern Tamaulipas. Many rivers are dry except in rainy seasons. Springs of water are comparatively rare. These are very valuable, and the water is used to fertilize all the land possible.

Saltillo is built near very fine springs.

At Chihuahua water is brought into the city by an aqueduct several miles.

Monterey has springs, and is alongside of a small river, which is dry part of the year.

Water is worth much more than land, and extensive ditches often carry it for many miles.

The right to use water is elaborately regulated by laws. Wells are very rare, and near the Mexican Gulf usually brackish. Artesian wells have not yet been tried. Tanks are occasionally made to hold water in natural depressions.

The possible future increase of agriculture in this section depends almost wholly on the two last noted. Tanks can, in my opinion, be made a most powerful and simple aid except where the subsoil is too porous. Dams across small streams, resacas, arroyos, &c., can hold for many months a large supply of rain water. This will not only afford water for stock and irrigation, but will affect vegetation and, perhaps, the annual rainfall. It should engage the careful attention of the Mexican Government.

Artesian wells would be more expensive and their success is yet to be determined. Large ranch owners should, and doubtless soon will, experiment with them.

With a good water-supply much of this country would produce abundantly of all temperate, semi-tropical or tropical products.

The present productions are very small—not enough to support the resident population.

The Rio Grande Valley is of fabulous fertility. Industry and intelligence, with proper laws and protection, are all that is needed to cultivate a hundred acres where one is now cultivated. This is a semi-tropical region.

In Southern Tamaulipas and Northern Vera Cruz are very fertile lands, which under similar conditions would produce all tropical products.

The "Laguna" region, lying in Durango, Chihuahua, and Coahuila is noted for its good soil, and is one of the most important agricultural portions of Mexico.

As I have stated, much good land is unused because of lack of water. All tillage except along the Rio Grande is by irrigation. Water is conveyed often many miles, and at great cost, from springs and river-beds to level fertile lands.

AGRICULTURAL IMPLEMENTS IN USE.

The tools may be divided. Generally all implements are of the most primitive description. A crooked stick, drawn by oxen or a mule,

scratches the soil a little as a preparatory move before planting or sowing. Hoes, &c., are heavy, awkward tools. Reaping is done with sickles, and thrashing by treading out.

AMERICAN IMPLEMENTS.

Within the last few years, and notably the last year, a considerable quantity of improved American implements have been introduced.

Plows, hoes, shovels, &c., are coming slowly into use. Some thrashing machines are in use, and more (and fanning mills) will follow as the demand increases.

These imports are almost entirely of American manufacture. We can control this entire trade and all increase thereof. No other country can compete here with the United States in this line of manufactures.

MANNER OF IMPORTS.

These goods are generally imported by resident merchants. They are purchased for cash or short credits in Saint Louis, Chicago, and other portions of the United States, and sent mostly by rail to the frontier.

SYSTEM OF PURCHASE.

Sales are made by them or their branch houses on the usual long-time credit system. Sales are slow, as it takes time to overcome fixed habits and prejudices. Generally the purchasers are large "rancheros." The poorer people, who have small holdings, will not buy until they see the superiority, and get used to their handling.

HOW TO ENLARGE AMERICAN TRADE.

To a certain extent I should advise the establishment of agencies for these implements in large cities by associated American manufacturers. Let agents canvass the whole agricultural portion of the country, selling on trial. Plenty of good hard work put out in this line would serve to largely displace the old time implements, and with better tools the products would be somewhat increased. As I have said, however, no great increase is possible unless the water supply be increased or more carefully utilized.

In this city a few American plows, more hoes, shovels, &c., are for sale. Some are in use near this city. Two or three miles out the old tools are in full use.

At Monterey larger stocks are held and a good many are already in use.

At Saltillo, Chihuahua, and other cities, stocks are held and these articles are slowly but surely taking the place of the primitive native articles.

WIND-MILLS.

One class of American products ought to have much wider use in this country. Wind-mills can be put up for two or three hundred dollars, This is a region of winds. In many sections, as here, the winds blow nearly all the year.

Alongside of a ditch, running stream, spring, tank, "estero," or well they could pump water enough to keep 20 or 30 acres in good condition. In this valley water could be had by digging, if no pond or other water was near. There should be hundreds of wind-mills in this valley. I

know of only two, of which neither are in use. One of these was never used, the owner having tried to cultivate lands not his own, but was unable to get a permit. The other mill is owned by the collector of customs here. It was damaged by the storm of 1880, and he has not repaired it. He informed me that he had lately ordered a better pump, and will put it at work this year.

To erect a wind-mill a permit is necessary, unless you are to use water which is wholly your own. In any case a tax of 2 per cent. is laid, and other local taxes are quite likely to follow.

This should be changed. Permits might be required when water not wholly owned by the applicant is to be used, and the amount of water to be used could properly be regulated. But in all cases permits should be free, no general or local tax should be charged, and a bounty should be given in some direct or indirect way to encourage their erection. By their aid a tank made artificially with cement sides and bottom could be filled in a week or two of wet weather to furnish a supply when the drought comes. The hundreds of ways in which wind-mills could save and distribute the water-supply, which is so very irregular in its coming, are not necessarry to mention.

Tanks, wind-mills, wise government, and intelligent labor would effect a wonderful change here.

AGRICULTURAL PRODUCTS AND IMPLEMENTS OF CULTIVATION.

Wooden-beam plows are best for this section. On the heavy bottom lands they are occasionally used with three or four horses or mules. Generally, however, they should be rather under the average size and strongly made. Stony land is common, as also in new lands roots and stumps of small trees. I should presume that deep plowing would not be advisable.

The harrows, cultivators, shovel plows, rollers, &c., are less in use. The same styles used in the United States would serve here.

Hoes, garden rakes, &c., should be of the usual varieties, some heavier for rough, stony field work.

Wheat, oats, rye, barley, &c., are sown by hand in small sections separated by ridges and ditches.

The old style sickle is used to reap the harvest. I believe that in the past some sickles came from Europe. Some are now made in Mexico, but the United States makes and sells better and cheaper for this market.

Corn, the staple food of the country for the masses, is planted in very narrow rows. The variety is small eared, hardy, prolific, and nourishing. It cannot be kept over, in the low lands at least, because the weevil eat it. It is cut up with knives. Some use the regular American corn-cutters. The stalks are all used for fodder, the shucks are often used for cigarette wrappers.

Next to corn, beans are a staple article of diet. They are raised in the usual way. The beans proper of the country, called "frijoles," are brown and of several sizes. One is much smaller than the white bean of the United States. Another is somewhat larger, and another of the size of Lima beans. There are also various climbers.

Potatoes generally of a fair quality are grown to a limited degree. They have not yet come to be a popular food with the poor people. Improved varieties and more extended cultivation would greatly benefit the masses.

Calabazas.—This fine vegetable is a cross or combination of the pumpkin and the squash, and is superior to either. When baked with

an addition of sugar it is the best dish afforded by this class of vegetables in the country.

When in the United States a maid dismisses her attending young man, she is said to "give him the mitten"; here this operation is termed "giving [him] calabazas."

While the "calabaza" is a popular food, yet the highest grade of appreciation is reserved for the "sandia" or watermelon.

A watermelon here is what it is in the Southern United States—a thing to be desired. They are of various sorts, but the most common are large, long, with red core and black seeds. There are fifty cartloads of them on sale in this city to-day. Prices vary with the season from 3¼ cents to 50 cents.

Muskmelons are also grown.

Peas are grown largely and are used in many ways, particularly in soups.

Other vegetables, such as cabbages, peppers, turnips, onions, garlic, &c., and many kinds of greens are raised.

The onions grown at and near Paso del Norte, in the State of Chihuahua, are perhaps the finest in the world.

Last year I sent to certain gentlemen in Michigan various seeds from the calabaza, melon, &c., and hope to learn how they thrive in that climate.

I think some "vegas" of the Rio Grande and other rivers would be very suitable for celery now so extensively grown near Kalamazoo, Mich.

Neither grass nor clover is grown for food for horses. When grass is needed a force of men and carts are sent into a suitable range and the grass dug up with heavy hoes.

Some scythes have been introduced but are slow of sale.

Cotton is extensively grown in the Laguna region, and some is raised in the Rio Grande Valley.

Sugar is raised in Southern Tamaulipas, Northern Vera Cruz, and near Monterey. It is cultivated rudely. The cane is crushed by the primitive methods, and the product is mainly of "piloncillos"—brown sugar in cakes shaped like a small beer glass, and weighing a pound more or less.

There are some sugar men in the interior of this State who are making inquiries and wish to purchase a few small mills for making brown sugar.

All these products need plows, harrows, hoes, &c., for cultivation, and the American tools are replacing those now in use.

FRUITS AND IMPLEMENTS OF CULTURE.

In Southern Tamaulipas are many fruits now but little cultivated, and of which I can say but little. With railways, cheaper water transport to New Orleans and Galveston, and intelligent effort great increase could be made there.

Oranges of a fine quality grow in Victoria de Tamaulipas, and near Monterey, and in many other portions of this district.

The tools needed would be almost entirely American.

The apples raised at Paso del Norte are unexcelled in taste, shape, and appearance by any I have ever seen.

Grapes of a superior quality are raised at Paso del Norte, Parras, and elsewhere. The El Paso and the Parras wines have a wide repute.

I have never tasted a good peach or strawberry in Mexico. I believe the latter are grown a little in Chihuahua and Coahuila.

Figs of a good quality grow generally wherever cultivated.

The foregoing as to the water supply and products may enable the reader to get a fair idea as to the possible present and future increase and as to the nature of the tools required.

MISCELLANEOUS TOOLS AND IMPLEMENTS.

American axes are in common use. Strong, heavy ones are preferred, as nearly all woods are hard and knotty.

Cross-cut saws are rarely used. Hand-saws, augers, chisels, planes, &c., are mostly from the United States.

TIMBER SUPPLY.

The timber supply is very small. In Southern Tamaulipas are considerable forests where American saw-mills, run on business principles, would make money.

I have read of one or two saw-mills run by Americans in the wooded mountain region of Chihuahua.

I am informed that some 4 miles from Victoria (Tamaulipas), the capital of this State, are considerable forests of fine saw timber. A small stream affording abundant water power passes through this forest. Yet wood floors are almost unknown there, and all planed lumber, window sash, blinds, &c., come in through Matamoros or Tampico.

BRICK AND ADOBE HOUSES.

Building materials are mostly earth, stone or brick.

In Matamoros brick is used for walls and roofs of the better houses; poles plastered with mud and thatched with grasses for the poorer houses. A few of each class are of wood.

Monterey is built mostly with stone and brick; Saltillo and Paso del Norte of "adobe."

Chihuahua is of stone and "adobe."

There is a certain fascination in getting your building materials out of your back-yard, which enables one to put up with certain inconveniences.

The better class of houses have wooden floors.

BUILDING MATERIALS AND TOOLS.

Lumber is imported from the American Gulf ports either by water or land, and sells at from $40 per thousand to twice or thrice that sum, according to class and location.

Much of the woodwork for a mission church in the interior of this State is now waiting to be sent out from this city.

California sends considerable lumber to Paso del Norte and farther west.

Shingles are but little used, although they are steadily gaining in favor.

Nails, glass, and putty come mostly from the United States.

The demand for building materials and tools to erect them will steadily increase.

The railways will make lumber cheaper, and it will tend to displace the pole and thatch houses of the poor and enter more largely into the construction of the better houses.

MILL-MACHINERY.

The number of flouring mills is small, but slowly increasing. At present American machinery is preferred, and purchases are almost entirely from the United States.

Cotton and woolen mill machinery is more commonly from England.

The complete machinery for a mint went through here from Philadelphia some years ago.

Sugar-mills, generally small, from Buffalo, N. Y., and from other American cities, are considerably used. They are slowly displacing the cumbersome wooden mills in use.

Corn-mills and coffee-mills usually called corn-mills, these latter being on the free list, are largely imported of late, mostly from the United States.

"All the world" eats corn here, and the slow process of grinding out the soaked corn on "metates" (flat stones) is giving way to the corn-mill.

WATER-POWER.

There is a considerable amount of unused water-power in different portions of Northern Mexico. As the common fuel, mesquite wood, &c., is not only expensive but burns out fire-boxes rapidly, and as the water used for making steam is bad for the iron boilers, water-power mills have a decided advantage.

The sale of water-wheels and other machinery for such purposes, while now small, will increase and be an important item. Such machinery can be furnished from the United States of better materials and at lower prices than from Europe.

MINING AND MINING IMPLEMENTS.

Much of this section is a mining region, silver, iron, copper, coal, &c., being found, the first in greatest abundance. The usual tools and machinery for such purposes are needed. Englishmen usually prefer and order mining machinery, boilers, &c., from home.

Americans and the general public claim that the American machinery is far better and more profitable.

At this time the larger amount of this very variable trade is turning towards the United States.

LIVE ANIMALS AND EXPORTS THEREOF.

Grazing is the greatest of the agricultural interests of this section. In previous reports I have roughly estimated the number of live animals as being 6,500,000, of which 2,500,000 are goats, 1,500,000 neat cattle, 1,000,000 horses, 1,000,000 sheep, and 500,000 mules.

The exports hence to the United States were in 1881 $314,272, and for the following year $455,917, nearly all of which were from this section. The value steadily increases, and is now about $500,000 per annum. These animals run wild and graze the year round. The saddles, ropes, branding irons, knives, &c., used in their care are of small value and are largely home-made.

The wool exported hence is nearly all classed as carpet wool.

The hides and skins are dried, salted, or poisoned. But few agricultural tools are used in their product.

VEGETABLE FIBER.

Istle, or Tampico fiber, is a natural product which is gathered and prepared by hand.

At present only a few primitive tools are used in its manufacture. The time is, however, ripe for some inventor to devise a method of preparing this fiber by machinery.

Not only istle but many other fibers and grasses grow abundantly, which I am confident could be made valuable use of in the manufacture of bagging, hammocks, ropes, paper, &c. It is a subject worthy of careful consideration.

CARRIAGES AND WAGONS.

Two of the most important articles of use in this country are carriages and wagons.

In a report lately published by the Department I gave information as to these items.

I beg to quote from that report:

I. A.—Carriages for pleasure, European or American in styles, being imported from those countries. They are usually of extra strength and should be of such material and make as to stand extreme droughts, sun, heat, and stony roads. In northern Mexico I know of nothing in use lighter than a pretty solidly made single seat top buggy. The ruling prices are very high and variable.

If the factory price be $100—currency—it would be about fair to put down the import cost, duties unpaid, at Mexican coin, $130 to $140. To this add duties of fully $100 Mexican coin, on above valuation, giving local cost at $230 to $240. Selling price all the way from 25 to 50 per cent. increase on cost.

B.—Traveling carriages for stage lines (diligences) are built after the old Concord coach pattern—are immense, carry fourteen passengers, have two drivers and eight or ten mules. Price $600, more or less, in Mexican coin.

C.—Traveling carriages (ambulances) for private travelers. These are about the size of a three seat open spring wagon in the United States. Are covered, have brake, cross springs, are very strong, and are fitted up for long journeys. Are drawn by two to five mules. These are the most common traveling carriage. Prices may be computed as under letter A. Some are finely fitted up, and cost $1,000 or more.

D.—A few American top buggies, generally one seat, are in use. Prices as under letter A.

E.—Wagons, heavy for trains, similar to those in use in Texas and the West. Prices as under letter A. "Chihuahua" wagons, still heavier than the above. Prices $200 to $300, Mexican coin.

II. Pleasure carriages are generally, if not always, imported, and on this frontier from the United States. Diligences are generally made in Mexico. The best ambulances are imported from the United States. Some are made in Mexico. Top buggies from the United States. Freighting wagons generally from the United States. Some are made in Mexico. Same as to "Chihuahua" wagons. The carts are almost entirely made in the country.

III. There is a great opportunity for the sale of American carts and wagons.

IV. The answer to this depends upon the adoption or rejection of the proposed treaty with Mexico, now under consideration by the United States Senate. See comments near the close.

V. Generally speaking, American styles are popular, but should be adapted to the needs of the country.

VI. The climate varies from very hot to (on the plateaus) extreme cold. From very dry to very wet. The sun's heat is very great, and carriages must be built to stand it and the extremes above noted.

VII. The roads are usually stony—sometimes sandy—and generally fair in dry season and bad in wet weather. The width of track is generally the same as for vehicles of a similar class in Texas and the West. * * *

COMMENTS.

Let us consider questions 3 and 4.

The first asks if there is an opportunity for the introduction of American carts and wagons. The second asks if the industry is of sufficient importance to encourage the introduction of American materials.

Of course you have heard of the limited reciprocity treaty between the United States and Mexico, now pending in the United States Senate. One of the American products, which Mexico by this treaty grants free entry to, is as follows:

"(26) 15. Diligences and road carriages of all kinds and dimensions."

This should include carriages of two wheels, carriages and coupés, carriages as landaus, berlins, &c., and wagons and carts. To make sure of including the latter I have suggested the following in place of the one now in the treaty:

"(26) 15. Diligences, carriages, and wagons, of all kinds and classes."

Mexico imported from the United States of carriages, &c., as above, in the year ending June 30, 1882, invoice values in United States coin, $173,015, on which the duties were about $175,000, Mexican coin. If this treaty is confirmed, this trade should run up to $500,000 per annum.

There is and will be a steady and increasing demand for such goods in Mexico. Woods having the requisite strength, elasticity, and toughness are not found in Mexico, at least in such conditions as to make competition possible if this treaty is confirmed.

By a late treaty with Germany, that nation will enjoy the same privileges as the United States, but of course you do not fear German competition in this line here. Great Britain or France would be more able to compete with you, but neither nation has such a treaty.

However, you can beat the world here on these goods, and you only need this provision of the treaty to enable you to control the trade in Mexico.

If you can get this treaty, and it will be well to try and get the definition amended as I suggest, then establish agents in every principal city and go in for a big trade.

If the treaty should entirely fail, then the introduction of American materials should be vigorously pushed by agents in the principal cities. In doing the latter you should have agents with power to sell and to sell at prices which will give you the full trade even if it be at a loss for a time. It may easily cost you something to get control of a trade like this. If it does, just assess the loss on the members interested and look to the future for sure profits and a good trade. * * * For a fuller account of the proposed treaty between the United States and Mexico, see my report beginning on the first page of Consular Reports No. 33 for September, 1883.

MISCELLANEOUS MANUFACTURES.

We send some harness to Mexico, also saddle-trees, hamess, collars, &c.

Along the frontier these imports are almost entirely from the United States.

Horseshoes, nails, and iron for making them are also imported from the United States. While the amounts are not large they are steadily increasing.

Bar iron and rod iron for manufacture into various industrial implements comes mostly from England.

The following table will enable the reader to see the value of the various articles imported from the United States for the period named, and also the Mexican import duties thereon:

A.—*Imports into Mexico from the United States for the year ended June* 30, 1882.

[Values in United States coin.]

Articles.	Quantity.	Values.	Mexican import duty.
Fanning mills .....number..	3	$80	50 cents per 100 kilograms (220 pounds). gross—except plows and their shares which are free.
Horse-powers.....do....	2	330	
Mowers and reapers .....do...	12	1,535	
Plows and cultivators.....do....	1,234	13,910	
All others, not elsewhere specified	.....	73,283	
Carriages, carts, and parts of	.....	173,015	Carriages, &c., each, from $88 to $396 and 50 cents per 100 kilograms, gross, + 4 per cent. of total + 5 per cent. of total. Carts, each, $33 to $66 and 50 cents per 100 kilograms, gross, + 4 per cent. of total + 5 per cent. of total.

A.—*Imports into Mexico from the United States for the year ended June* 30, 1882—Cont'd.

Articles.	Quantity.	Values.	Mexican import duty.
Bar iron ..... pounds..	364,689	$16,281	If for mines, &c., 50 cents the 100 kilograms, gross. Other sorts, 6 cents to 29 cents the kilogram (2¼ pounds), 50 cents the 100 kilograms, gross, and the 4 per cent. on total and 5 per cent. on that total.
Sheet, band, and hoop iron..do....	24,545	1,252	
Steam engines, stationary, number	35	27,926	50 cents the 100 kilograms, gross.
Boilers, separate	.....	19,672	
Iron, machinery, not elsewhere specified.	.....	1,185,607	
Nails and spikes..... pounds..	1,656,261	83,753	12 cents the kilogram, 50 cents the 100 kilograms, gross, and 4 per cent. and 5 per cent. on those totals.
Ingots, bars, sheets, and wires, pounds.	87,061	11,156	Free or free and 50 cents for most uses. Others pay high duties.
Cutlery	.....	7,493	High duties—cannot classify.
Edge tools	.....	179,452	If for agricultural, mining, industrial, scientific, or artistic purposes, 50 cents the 100 kilograms, gross.
Files and saws	.....	6,166	
Scales and balances	.....	21,534	29 cents per kilogram, 50 cents the 100 kilograms, gross, and 4 per cent. and 5 per cent.
Boards, &c..... M..	25,315	437,789	Woods, ordinary, for construction, are free.
Laths, &c ..... M..	96	600	
Shingles ..... M..	3,905	15,874	
All other lumber.....	.....	437,318	

Some of the above are not strictly agricultural, but are given to illustrate points mentioned in the report.

In conclusion, I desire to state that exact data are very difficult to obtain here. The information herein given is general, and while generally true may not be found absolutely correct in occasional particulars. It is the result of most careful observation in the country mentioned.

WARNER P. SUTTON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Matamoros, June 23, 1885.

CHIHUAHUA.

REPORT BY CONSUL SCOTT.

Referring to the circular of the Department of February 20, 1884, I beg to say that this consular district, embracing the southern part of the State of Chihuahua, is not strictly speaking an agricultural country. I will, however, give some data on the modes of growing crops and their culture.

MODE OF CULTIVATION.

The farms, or haciendas as they are called here, are generally of large area, but along the river valleys the land has been divided into smaller tracts.

The uplands are generally hard, sandy ground, and the valleys are alluvial deposits of the most surprising productiveness.

The plowing is done with a wooden plow with an iron point, which furrows the ground to a depth of 3 to 4 inches.

American plows have been introduced, but they are not accepted with an abiding faith by the native laborer. They desire to remain

employing the old wooden plow, the heavy hoe with a crooked handle, and the sickle in place of the reaper. Corn is planted in the valleys, cultivated by irrigation and on the uplands by plowing and trusting to the rainfall to mature the crop.

Wheat, corn, and barley are grown by irrigation without any danger of failure of crops. The product of wheat is often eighty harvested for one planted.

IMPROVED MACHINERY.

There is a fine field for the introduction of gang and sulky plows, reapers, and other improved farm implements.

There is not a ton of hay stacked in this State, and it frequently occurs during dry seasons that a hay-rick near water would prove a valuable boon for the suffering cattle. They need the example.

I have seen a fine steam thrasher standing idle and the wheat being tramped out by wild mares on a stone circle.

When asked why they did not use the thrasher, they replied: "Oh, that thing is no account; can't work it."

I should have liked to have seen their astonishment at the working of the machine in proper hands. In many of the large haciendas the land is allotted off into sections, the renter giving one-half of the harvest, or if seed and tools are furnished him then one-third is all that he receives.

The proprietor generally furnishes everything, and provides the renter with provisions pending the harvest of the crops, which generally all fall into his hands.

SYSTEMS OF PURCHASE.

Implements would be sold here for cash, the credit system not being in such favor as was given it some years back.

WHAT THE PEOPLE WANT.

What the people here want is to see the practical working of the machines by practical hands, and I am confident they will adopt the new things that the country is forcing upon them.

Almost all tools are imported from the United States.

LOUIS H. SCOTT,
Consul.

UNITED STATES CONSULATE,
Chihuahua, April 7, 1884.

LOWER CALIFORNIA.

REPORT BY CONSUL VIOSCA, OF LA PAZ.

In due compliance with instructions from the Department of State, contained in circular dated February 20, 1884, relating to agricultural machinery and to the general investigation suggested thereon, embracing the principal points purporting to the details referred within, I have the honor to report:

AREA AND SOIL AND PRODUCTS.

Taking in consideration the general extension of the peninsula or of the territory embraced by and under this consular jurisdiction, the

character and bareness of its soil, the excessive lack of moisture and water, the relative and almost unparalleled circumstance of the country being generally mountainous and of a rocky formation, make it very difficult to give anything like an important report, but I cheerfully give a summary of the few places and towns where agriculture is within the possibility of being carried on.

The municipalities comprising the agricultural districts by which the country is politically divided, are San José of Cape St. Lucas, Santa Amita, Caduaño, Santiago, San Bartolo, El Ora, Los Dolores, Loreto, Comondú, La Purisima, and Mulegé on the Gulf coast side, and Todos Santos on the Pacific side. The sections of land under cultivation and corresponding to each of the above-named districts are very limited, the most extensive one being the San José Valley, which can be approximately calculated to possess 5,000 acres of irrigable alluvial rich soil; Santa Anita, Caduaño, El Oro, and Santiago together about 17,500 acres of almost the same soil, most of which is supplied with large permanent streams of water.

The town of Todos Santos, situated on the Pacific coast upon a high and picturesque hill-side, is the next in extent to that of San José of Cape St. Lucas. The lands of the town at present under cultivation are estimated at 4,500 acres; corn, beans, barley, oats, sugar-cane, and cotton are their principal productions; also many kinds of tropical fruits, principally oranges and lemons. Brown sugar, made in small round cakes, called *panocha*, is exported from the said districts to Mazatlan and Guaymas, besides providing enough for the consumption of the territory. The total yearly production of sugar, computed from the statistics of 1883, is something about 800 tons of 2,000 pounds each, its usual market price being 6 cents per pound.

The cotton plantations have lately and in a great degree attracted the attention of the farmer. Recent experiments have given the planters a brilliant prospective future.

The other sections, San Bartolo, Los Dolores, Loreto, Comondú, Purisima, and Mulegé, are of a distinct nature; the soil is materially composed of calcareous and sandy substances, containing carbonates and alkali, mixed with rich clayish alluvials, fit only for fruit culture. Grapes, figs, olives, raisins, dates, and oranges are exported from the said localities.

MODE OF CULTIVATING.

The mode of cultivating is entirely primitive; the few tools and impleplements used are imported from the United States.

The Todos Santos and San José districts have lately erected two steam-power sugar-mills, imported from San Francisco. Plows and other implements and machinery have also lately been introduced from the State of California, and are found to be much to their advantage and giving more lucrative results.

No other agricultural machinery has been introduced as yet.

HOW TO INTRODUCE AMERICAN TOOLS AND IMPLEMENTS.

The American manufactures in the line of tools, implements, and machinery are considered the best, and the proper manner to more fully induce the use of them in these remote markets would be by manufacturers sending agents down to this country with samples, and if possible by establishing a sample office with all the necessary details, ready to receive and fill orders.

NAMES OF DEALERS IN AGRICULTURAL IMPLEMENTS.

The system for purchases is generally cash; besides a great many customers could possibly extend their trade, &c., if a certain amount of time could be allowed for payments. The generality of the people here are perfectly honorable and reliable in their dealings, such as Messrs. Juan Hidalgo & Co., Pablo Hidalgo & Co., Gonzalez & Ruffo, Cabezud & Co., Cota & Pelaez, Gregorio Rivera, J. B. Bidabé, Geo. Ibbs & Co., Ildefonso Green, Widow Villarmo & Sons, Marquerean Bros., and many others.

IMPORT DUTIES.

No other taxes exist in the territory except the direct import duties soon to be regulated by the reciprocal treaty with Mexico.

JAMES VIOSCA,
Consul.

UNITED STATES CONSULATE,
La Paz, June 5, 1884.

MANZANILLO.

REPORT BY CONSUL MAHLO.

In response to circular of February 20, "relating to agricultural machinery," I have the honor to submit the following report for my consular district.

EXTENT OF TERRITORY.

The extent of territory embraced in this report may probably exceed 10,000 square miles, formed by the State of Colima and portions of the adjoining States of Jalisco and Michoacan. The land is mostly divided into large farms or haciendas, from 1,000 acres up to 200,000 acres, about one-tenth of which is under cultivation.

SOIL AND CLIMATE.

The nature of the soil varies from sandy, near the Pacific coast, to the rich marly and loamy soil of the bottom lands, and higher terraced plains in the interior. In general it is exceedingly fertile and productive, having been formed by the accumulations and washings of the decompositions and disintegrations of the feldspathic, the limestone, and gypsum rocks dominant in this part of Mexico.

From the shores of the Pacific to the high plateaus of Jalisco and Michoacan—that is, up to an altitude of 4,000 to 5,500 feet—we pass from the tropical, through the semi-tropical, to the temperate zone in the short space of a two days' journey on horseback.

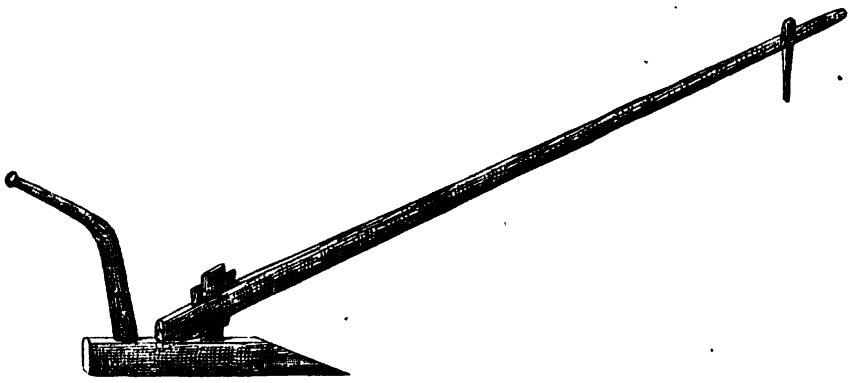
To this difference in the climate is due the variety of agricultural products which one is enabled to cultivate here.

PRINCIPAL PRODUCTS.

Among the principal products of the tropical and semi-tropical part of this consular district, Indian corn, rice, coffee, sugar, and cotton are cultivated. Higher up, on the plateaus of Jalisco and Michoacan, wheat, corn, beans, potatoes, &c., are grown.

MODE OF CULTIVATION AND IMPLEMENTS USED.

The mode of cultivating the soil in this part of the Republic is, with very few exceptions, the most primitive imaginable. I have not heard of a single farmer yet who would think of manuring his fields. The most simple and primitive agricultural implements are used, and it is a wonder to see how much the lands yield under the treatment with such rough antediluvian tools—as, for instance, the native wooden plow



shown in the accompanying sketch, drawn by two oxen, and which is yet universally used by even the largest haciendados (farmers) of this district to the exclusion of our modern American plow.

In some instances when rancheros—small farmers—or people who, not owning land themselves, rent from 5 to 25 acres from the proprietary farmers, the plow is dispensed with entirely, especially on newly-cleared land. With a simple iron-pointed stick they bore holes in the ground, and the seed corn is cast in. Corn, beans, cotton, &c., are often sown in this manner. In a few days the young seed shoots up, and with it innumerable weeds, which are removed by hand.

Seed-sowers, cultivators, drills, harrows, corn-planters, and other improved labor-saving implements are, to my knowledge, not yet in use here, except on some of the larger haciendas in the interior of the State of Jalisco.

Primitive as these Mexican implements are for tilling the soil, so equally simple and crude are the appliances for cutting the rice or shelling the corn, the rice, and the coffee. I am happy to say, however, that, within the last year or two, a commencement has been made in the importation of corn-shellers, coffee-shellers, and sets of rice machines from the United States.

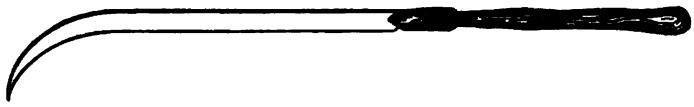
RICE PRODUCTS AND MANNER OF PRODUCTION.

The State of Colima is the principal rice-producing State of the Mexican Republic, having produced during the year 1883 over 4,000,000 pounds of rice, which production is steadily on the increase. The adjoining State of Jalisco produced during the same period over 2,500,000 pounds, and Michoacan about 2,000,000 pounds.

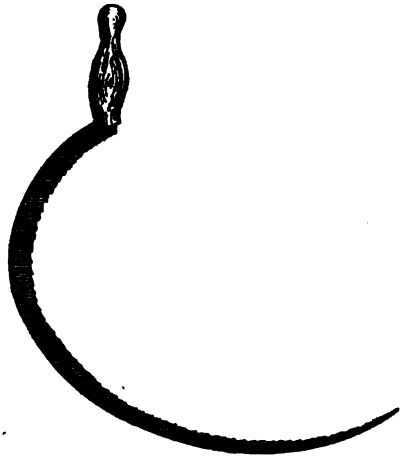
I will endeavor to illustrate the old-fashioned, crude manner in which this immense product is raised and made ready for consumption:

The field suitable for the growing of this staple is plowed in July,

superficially, with the above described native plow; the seed rice is sown broadcast over the field by hand, and then cross-plowed. The irrigation water is allowed to overrun the entire ground as soon as the young shoots are from three to four inches high, and the field is left under *running* water until the plant has attained a height of about two feet, which is in about a month and a half or two months. Now begins the cutting by hand (for clearing) of the young plant and weeds, down to a height of about three inches from the ground, with an implement of the shape shown in the sketch, called "guadaña" (imported from Ger-



many, and, I suppose, expressly made there for the Mexican trade). During this time the water is dammed up and the field is dry. The cut-off portions of the plant and weeds are left on the ground to rot, the field is again set under running water, after which, the rice growing rapidly, it is left to itself until the time of the harvest, in November or December, when the cutting commences with a sickle-like instrument called the "rasadera," which is imported from England.



The farm laborer is provided, besides the "rasadera," with a common straw or rush mat, about 4 feet square, which he spreads out on the ground, and upon which, after having cut as big a bundle as he can hold in one hand, he strikes the ears a couple of times for the ripe grains to fall out on the mat.

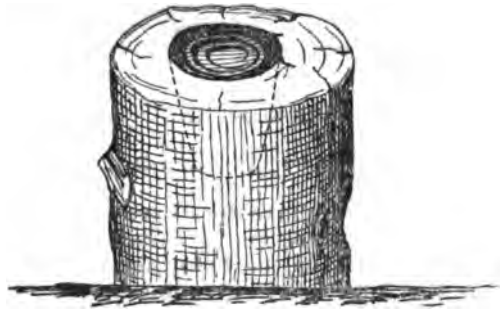
Whenever this mat is covered with the grains he takes it up and empties it into sacks, and then proceeds as before.

The sacks are brought to an open platform near the houses of the hacienda, made up of a kind of cement or hydraulic mortar, upon which the unshelled rice ("granza") is spread out and exposed to the sun to dry. When dry it is put again into sacks, and stored until the proper time for hulling has come.

The hulling and cleaning of this rice, in almost all the haciendas of this district, is about the most naive and primitive manipulation one can think of, and it is hard to imagine how it is possible that in a country of such close proximity to the United States, and with the best advantages of procuring the proper machinery therefrom, this mode of hulling the rice is still practiced to such an extent.

Although, as I have indicated above, some few progressive farmers have commenced to import and use the American rice machine, the *modus operandi* generally practiced is the following:

Under a shed, or in the hacienda, are placed, at intervals of about 3 feet, in single or double rows, from ten to fifty round, crude wooden trunks, cut from the stems of good-sized trees, 2½ feet high by 2 feet in diameter, firmly set into the ground. In the center of each trunk is carved out an inverted cone-shaped hole—upper diameter about 10 inches, and 12 to 15 inches deep. as shown in the accompanying illustration.



In this hole is placed some unhulled rice to within about 1 inch of the top, and a poor, half-naked native laborer, with a heavy wooden pounder in his hands, "hulls rice" by pounding, and pounding, and

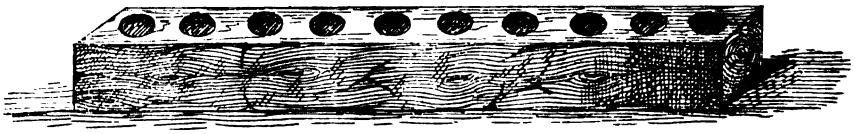
pounding, under the influence of a tropical sun, upon the rice in the hole, until the contents of this "modern mortar" have been converted into hulled rice, sometimes the worse for having been pounded a little too much.

The rice, together with the loose husks, is then taken out and put in

baskets. The hole is refilled with "granza," and so this laborious hulling goes on from day to day and week to week until soon the pounders begin to spit blood and are made sick for life.

The rice is cleaned or separated by lifting the baskets up in the air above the head and letting it slowly fall upon a mat, whereby the light husks are carried off by the wind. This operation is repeated once or twice, if necessary.

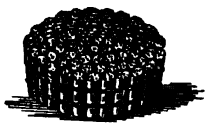
The rice is then put into sacks of about 175 pounds each, and is ready for market. Sometimes, instead of single trunks or mortars being placed separately in the ground, there is used a long, heavy, square log of immense dimensions, 2½ feet or more square, and often 30 to 40 feet long, taken from a "king of the forest," with a number of holes carved out at certain intervals and used for the same purpose.



CORN-SHELLING.

The cultivation of maize, or corn, cotton, &c., partakes of the same arduous character.

Some American corn-shelling machines have been imported, and are now in use on one or two farms, giving satisfaction. With these few exceptions, the corn is shelled in the following simple manner: About forty corn-cobs are tied together in a round bundle of from 18 to 21 inches in diameter. A man, kneeling down, takes this bundle between



his knees, and with an ear in each hand rubs them across the upper, larger surface of this "machine," thus shelling from ten to twelve bushels of corn in a day.

Another mode of shelling corn is by erecting a rough wooden stand or open framework, about 3 feet high by 8 feet square; four posts are fastened on top of this stand, about 6 feet apart and 3 feet higher than the framework. Upon these four wooden posts is hung a kind of net made of strips of a cow-hide diagonally interwoven, forming meshes of about three-quarters of an inch long by one half inch wide. On this net, which hangs low in the middle, are thrown ten to twelve well-sized basketfuls of ears of corn, and four men, standing at each corner on top of the stand, beat the ears with a light thrashing flail, cut from a bough of a tree, with a thick knob on one end. The shelled corn falls through the meshes of the strong cowhide network down to the ground upon mats, from whence it is taken into baskets and cleaned by dropping it from a certain height, the wind carrying away the chaff.

There are not less than 6,000,000 bushels of corn shelled in this primitive manner in this consular district alone.

AMERICAN IMPLEMENTS IN USE.

The few improved implements and machinery now used here are all imported from the United States, and give perfect satisfaction. There are some large sugar haciendas in my district, which, with a single exception, still use old, crude machinery. One of the largest sugar factories (San Marcos) has lately imported over $200,000 worth of new machinery from Germany and France through the German houses established in Colima.

HOW TO INTRODUCE AMERICAN MACHINERY.

The best manner of introduction of American agricultural implements and machinery among the farmers of this district, slow as it may prove to be, would be through agents who understand the Spanish language, and possibly through the establishment of branch houses, with sample-rooms, so that the people can see with their own eyes the improved tools and instruments to be introduced.

The system on which larger purchases are universally made in this country is on time—four, six, and eight months, with 8 to 10 per cent. added.

The German merchants here have adopted this system, and fare well by it.

Messrs. Root & Tinker, of New York, have, for the last two or three years, a branch house for the sale of agricultural machinery in Guadalajara, the capital of the State of Jalisco, doing a fair business in that State.

The manufactures are imported into this district by steam from New York, and by steam and sailing vessels from San Francisco, Manzanilla being the port.

American manufacturers should make more and *continued* efforts to introduce their goods here. They will be sure to gradually find a good market. Other countries cannot compete with ours as far as agricultural implements and machinery are concerned, including all kinds of hardware, which is now, to a certain extent, imported from the United States, and slowly crowding out of the market the German and English manufactures, people preferring to buy American tools of this class.

CATALOGUES.

Illustrated catalogues, in the Spanish language, should be sent to almost every farmer in the country, or at least to the larger haciendados.

FIRMS ENGAGED IN THE SALE OF MACHINERY.

The United States consuls, no doubt, would gladly aid the American manufacturer by sending him lists of names of farmers residing in their districts.

Reliable firms in Colima, who would engage (and, to a certain extent, now are engaged) in the importation and sale of American agricultural instruments, are George M. Oldenbourg and Aug. Schacht.

The latest advanced styles only should be sent.

EMIL MAHLO,
Consul.

UNITED STATES CONSULATE,
Manzanillo, Mexico, September 25, 1884.

NUEVO LEON.

REPORT BY CONSUL CAMPBELL.

AGRICULTURAL IMPLEMENTS IN NUEVO LEON.

[In a dispatch dated April 10, 1884, Consul Campbell writes concerning agricultural implements in Nuevo Leon, in answer to the Department circular:

Respectfully noticing a circular recently received from Department of State, relating to agricultural machinery, &c., I would state that in my report on the agriculture of the State of Nuevo Leon, dated November 9, 1883, I have given as complete details of the agricultural condition of this country as it is possible with the limited means at my command, and the great difficulty of obtaining reliable and correct information. The extent of my territory is about 250 miles square, and so far I have been unable to visit every section; in fact, it is a matter of impracticability, considering the duties of my office.

The following is the report referred to by the consul.]

I have the honor to transmit a report on the agriculture of the State of Nuevo Leon, Mexico, which may be of some interest to manufacturers of agricultural machinery and farming implements in the United States.

It was with great difficulty that I could obtain any approximately correct estimates of the productions of this State, as there is no account kept of anything except what is put on the market for sale.

The State of Nuevo Leon is situated between 23° 5′ and 27° 10′ north latitude, and 30′ east longitude and 1° 26′ 40″ west longitude from the city of Mexico. It is bounded on the north and west by the State of Coahuila, on the south and east by the State of Tamaulipas, and on the southwest by the State of San Luis Potosi. Its greatest length from north to south is 284 American miles, and its greatest width from east to west is 105 miles. Its area is 6,695 square miles. The population, according to the best authorities, in 1881 was 201,732.

The northern part of the State consists of high rolling plains, intersected by very few streams, and covered with stubby chaparral, palmetto, and a few maguey plants; the balance, and greatest portion, is broken by high mountain ranges, forming many fertile and well-watered valleys. The altitude of the plains and valleys ranges from 1,000 to 2,400 feet above gulf level. The mean temperature of the climate is 70° Fahr. The highest in summer is 96° Fahr., and lowest in winter 47° Fahr. The mercury, however, reached 8° C. below zero on the 29th December, 1880, a circumstance which had not happened since January 7, 1837. The State generally is very healthful at all seasons of the year. Good water for drinking and domestic purposes can be obtained in most any part of the State at a depth of from 40 to 60 feet. Besides the Sierra Madre Mountains, there are many spurs, some of which are Cerro de la Sella or Saddle Mountain, Cerro de la Mitre, Pichaco, Santa Clara, La Iguana, and Gomez Mountains, which divide the country into many beautiful and fertile valleys, refreshed by numerous streams of crystal water flowing from the mountain sides. Some of these streams assume the proportions of rivers, principal among which are the Salado, El Candela, El Sabina, San Juan, Pilon, Monterey, and Lanares. They are naturally perennial, but during the dry seasons some of the smaller ones are exhausted for the purpose of irrigation of crops, leaving only dry beds for many miles below. Fish in abundance, such as the trout, bass, perch, bream, catfish, and eels, people these streams.

SOIL.

The soil in the northern part of the State is a gray sandy loam, very fertile, but on account of the irregularity of rains and lack of rivers from which to irrigate the crops, agriculture receives very little attention. Many herds of sheep and goats are pastured on these plains, which furnish plenty of nutritious grass and shrubs for their subsistence all the year. The central, eastern, western, and southern portions are of a dark, rich loam, varying in depth from 4 to 8 feet, under which is a substratum of lime conglomerate. While the general character of the soil is of a dark vegetable loam, there are areas containing a large proportion of white and yellow sand, which renders them better adapted to the cultivation of fruits and vegetables. Upon the whole, I do not believe that this country can be surpassed in the world for pleasant and profitable farming. But there have been, and still exist, many reasons why it has not yielded more abundantly, which I will endeavor to set forth plainly and concisely. The first is the inefficiency of the labor. The lands are so rich, and respond so liberally to little cultivation, that it has naturally engendered a chronic indisposition to labor in the working classes, who, contented with just a sufficiency to support them, make no efforts to do more. One able-bodied man cultivates only about five acres, and he does this with implements of the simplest and most antique pattern. And generally they manifest no desire to arouse from their lethargy and change the old manner for a better.

PRIMITIVE FARMING.

I have visited many haciendas, or farms, and, with very few exceptions, found that they still plowed with the forked limb of a tree, the foot of which has an iron point about 3 inches long. This natural plow-stock boasts of but one handle, and is drawn by a yoke of oxen. It makes a furrow about 2 inches deep by 3 inches in width. In addition to this Adamic plow a short-handled hoe is used in the cultivation of the various crops. As comparatively little small grain is raised in this State, such machinery as mowers, thrashers, separators, &c., is never seen. In answer to the question why the farmers adhered so tenaciously to these pristine and inefficient modes of tilling the soil, I was informed by several intelligent and reliable Mexican gentlemen that it required too much physical exertion to lift about the heavy American plows, and that the reason they preferred oxen was that horses made them walk too fast; hence they clung to the primeval fork and the kind and faithful ox; besides that, there existed an almost unconquerable prejudice against the introduction and use of American manufactures. But I am satisfied that before many more seasons come and go these prejudices that haunt the imaginations of this people will give way under the kind, conservative, and patient treatment of the American, and that new ideas and a more vigorous life will be instilled by American enterprise and competition. Farm labor is abundant here and commands about the same compensation as in the United States. An ordinary laboring man is paid for farm work from 25 to 50 cents per day, or $8 a month and a peck of corn a week. They are required to work from sunrise to sunset, with one hour at noon for recreation. It requires kind but rigid firmness to control the laborers satisfactorily.

Corn.—While all the farm products adapted to a southern climate can be grown with profit in this State, viz, corn, wheat, barley, rye, oats, rice, beans, sugar, and cotton, the principal and most profitable crops are corn and sugar. Corn yields from 30 to 75 bushels per acre. Where the land can be irrigated this yield is certain, and two crops are pro-

duced every year, but when they depend on the rain the crop is uncertain, and they are never able to secure more than one crop a year; but when the rains are regular the land produces as much per acre as when irrigated by artificial means. I am pretty well satisfied, if the farmers would cultivate deeper and more thoroughly, that so much complaint of drought would be uncalled for, and that they would find that the rainfall would generally be sufficient to produce good crops every year. Corn is planted in rows 3 feet apart, and in hills every 7 or 8 inches, with two grains to the hill. The first crop is planted in March, and the second in September, and comes to maturity in June and December. It gets very little attention after it comes up. It is plowed once by the same stick plow, and followed by the hoe. In addition to the regular crop, considerable areas are sowed for feeding stock. It is cut in the tassel and carried to the cities for sale while it is green, getting for it at the rate of $75 per acre. The price of corn averages $1.50 per bushel on the Monterey market. Sometimes after a dry season it brings as high as $3. Strange to say, as much corn as is made, it is shelled in as simple and primitive a manner as it is cultivated. They bind about thirty cobs together, hold this bundle between the knees, and with an ear in each hand, rub them across the larger end of this simple structure. One man can shell in this manner about 20 bushels in twelve hours.

Sugar cultivation.—Sugar-cane is grown to a great profit in any part of the State where irrigation is available. It is planted once in twelve or fifteen years. The culture of this crop, like that of corn, is very shallow and imperfect. The southern and eastern portions of the State are best adapted to the growth of the sugar-cane, though it does well in the greater part of the State. The stalks are generally long and mature almost to the last joint. It produces from three to five hogsheads of piloncillo (crude sugar) per acre. This commands generally 4 cents a pound. The cane is crushed by ordinary iron sorghum mills and boiled in evaporating pans, similar to those used by small farmers in the United States. The mills are imported from the United States, but the evaporators are made here by hand.

Beans grow well here, but corn and sugar-cane pay so much larger profits that but little attention is paid to their cultivation. They are raised abundantly in the adjoining State of Coahuila, and keep well for six or seven years there. In this State they are subject to the ravages of the weevil. They are selling now at 12 cents a pound. This is, however, an unusually high price, they ordinarily bringing 5 cents a pound. Rice yields well in the southeastern part of the State and sells at 10 cents per pound.

Cotton.—Cotton is scarcely cultivated at all. It is claimed that the winters are too mild to bring it to maturity; hence a very small quantity opens. I am inclined to believe it is the lack of proper management. A reliable gentleman informs me that he has a small patch not far from Monterey that has been planted twelve years, and that he gathers a crop from it every year. Right here is a chance for the manufacturers of fertilizers. From a few experiments made by the application of ammoniated fertilizers to other crops, I think there is no doubt that a light application to cotton of some stimulating fertilizer would force it to an earlier maturity, thereby overcoming the above-mentioned difficulty and making the cultivation of this staple a success. It is now bringing 20 cents per pound, all of which is shipped from Texas. In the Laguna section of the Republic, which is about 250 miles west of Monterey, the planters are in advance of those of this State in the cultivation of cotton and the introduction of improved agricultural implements. They are increasing

the acreage of cotton every year. So much for the staple products of this State.

Vegetables.—Vegetables of every kind luxuriate here. Irish potatoes grow so abundantly wild in the mountains that the gardeners deem it useless and unprofitable to plant and cultivate them. Sweet potatoes grow as a matter of course. No accurate information can be obtained as to the quantity that can be produced on an acre. I am told that they will grow as thick in the ground as they can lie together. Onions claim this as their native clime, growing very large and abundantly. It is useless to dwell longer on vegetables. Suffice it to say, they all grow as fine and in as great quantities as the most enthusiastic vegetarian could wish.

Fruits.—Fruits receive little or no care; they are entire strangers to the plow and the pruning-knife. Oranges, lemons, limes, peaches, apples, figs, pomegranates, grapes, and pears all grow well with the least encouragement. Large, delicious oranges are brought to this market by the cart load, and can be bought a half cent apiece. Lemons are not raised so extensively. The apples are small and of inferior flavor, all of which I am satisfied is the want of a proper cultivation. American apples are retailing on the streets 6 cents each, while the native apple is 6 cents a dozen. Pecans and English walnuts are indigenous to the country, and grow abundantly.

Grasses get no attention, as green food is so abundant the year round, and seems to be preferable to cured hay. Several experiments have been made, and alfalfa yields 20 tons per acre. It grows 6 or 7 feet high, and can be cut several times a year. We are, therefore, convinced that clover and grasses of all kinds would flourish in this soil.

Tobacco is grown to some extent in this State, but I have been unable to procure reliable data. In the first place they do not know how to manage it, and in the next place it is overlooked, when green corn will pay $100 per acre, with very little labor and care, and corn the same, and sugar from $150 to $250 to the acre. Hence they do not care to be troubled with tobacco, preferring to buy it from the United States and some parts of the Republic of Mexico. Below I append a tabular statement of the various agricultural products of the State of Nuevo Leon placed on the market, and their respective values.

ROBT. C. CAMPBELL,
Consul.

UNITED STATES CONSULATE,
Monterey, November 9, 1883.

CENTRAL AMERICA.

BRITISH HONDURAS.

REPORT BY CONSUL MORLAN, OF BELIZE.

AREA AND PRODUCTS.

The total area of the colony is about 7,500 square miles, of which about 1,280,000 acres is defined as alluvial virgin soil, and 10,000 acres, or less than one one-hundredth part of the whole, is or has been under cultivation.

Agriculture is still (after more than two hundred years of occupancy) in its infancy, as the attention of the colonists has been almost entirely

diverted to the natural products of the forests, such as hard and valuable furniture woods, dye-stuffs, &c. These are, however, getting more and more difficult of access, and the attention of a portion of the colony is now being attracted by the agricultural resources of the colony, especially fruits, cocoanuts, cacao, &c., which find ready cash sales to the steamers that make frequent trips to the coasts of the colony and adjacent republics. There are also a number of sugar estates where sugar (principally concrete and muscovado) and rum are made. The above-named, together with some small plantations of rice, corn, yams, &c., and one coffee plantation, comprise the agricultural interests of the colony, and, with the exception of the fruit trade, the scarcity of labor precludes any great increase at the present time.

AGRICULTURAL IMPLEMENTS IN USE.

The agricultural implements used in the colony are of the most primitive kind, and may be classed in the following order: First, the ax, or machête; second, the hoe; third, the plow, which is only used on the sugar estates after they are several years established, as the roots in the ground after clearing are too numerous and strong to allow its use; fourth, the machinery necessary for making sugar, rum, &c. The size of the estates and plantations varies greatly, some of them being estimated by square miles (a small portion of the estate being cultivated) down to the "milpas," or small plots of rice, plantains, yams, &c., generally about 1 to 5 acres in extent. The soil of the colony is of every description, from the low marshes of the coast to the hills and mountains of the interior, which, in the instance of the Coxcomb Range, reach an elevation of 4,000 feet, and capable of producing all kinds of tropical products in the greatest profusion. The cultivation of the soil, as mentioned above, is primitive, and as follows: The ground is cleared with the ax and machête, and the brush burned off at the end of the dry season. The planting is then done with a hoe or machête, and the ground kept clear until the plants are large enough to take care of themselves. After several years it is possible to use a plow to cultivate or to unroot the plants for replanting.

IMPORTED IMPLEMENTS.

A large share of the above-named implements are imported from the United States, although they are higher priced than those from England and Germany. As a rule, however, they are better finished, and those who can afford it prefer them. The handles that the people here affix to their axes would make the average American smile, and if he had to use them I fear there would be some tall swearing. They usually consist of a straight pole, without any regard being paid to the shape of the hand and very little attention paid to smoothing. In addition to the tools specially mentioned, the only other articles of agricultural hardware in use are the mills and engines used for making sugar and stills for distilling rum. Of the former, the heavy mills and engines come from England and Scotland, and the light ones from the United States. The heavy English mills are considered superior to the American, as they do not stint the iron, and there is consequently less danger of breakage. On the contrary, the small mills, if made too heavy and clumsy, would be too much of a task for the oxen or horses to run. As will be seen by the foregoing, there is none of the agricultural machinery so largely used in the temperate zone, such as mowers, reapers, thrashers,

&c., in use here. Even the scythe has no place among the implements of husbandry, as there are no fields of grass to mow. The hay used is all imported. There is no special effort made in Belize to introduce any kind of agricultural machinery, or, in fact, anything. All the principal stores try to keep everything, from ships' cables and anchors to her sails and rigging; all kinds of hardware and glass, dry goods, drugs, provisions, silks, liquors, &c., the result being that none of them have complete assortments in any particular line, and one is compelled to take what they have or go without, else wait the time necessary to order from the United States or Europe.

In the general hardware line the American goods are usually much higher priced than the European; but, to offset the high price, they are usually much better finished and better suited for the purpose for which they are intended. In door locks, for example, the people here still use the old-style wooden locks, without knobs, and with a key that is a load to carry.

HOW TO INTRODUCE AMERICAN MANUFACTURES.

There is undoubtedly room for a good hardware house in Belize, although it is doubtful if one dealing exclusively in American goods would succeed, as the heavy, bulky goods are so much cheaper in England and Germany than they are in the United States. By judiciously combining both kinds it would pay handsomely, and the demand for American goods could gradually be worked up. Considerable capital would be required to follow the plan above suggested, as the people here are accustomed to buying on long credits. To sell American goods here would also require a man who thoroughly understood the merits of the various articles of machinery or hardware that he was agent for, and who would not readily be disheartened or discouraged by any rebuff he might receive, and last, and I might say most important of all, he must be a salesman. A good salesman will sell almost any article, good or bad.

Most of the large estates here import all the machinery, tools, hardware, &c., that they need for themselves. This is largely owing to the fact before stated, that none of this class of goods are kept in large and complete assortment by the stores here. A few years, with proper management, would change all this, and as the surrounding republics look to Belize for their supplies, a large and profitable business would be certain.

BUSINESS SYSTEMS.

Almost the entire business of the colony may be said to be done on credit, and I believe the time given is much longer than is customary in the United States. This, I think, is largely due to the fact that goods from Europe are generally several months in coming. Then, when the goods are sold, the house may have to wait six months or a year before being paid by the planter or laborer, and finally it will require several months before the money can be remitted, either by draft or produce. The importation of goods is now largely made by steam, and in this respect the United States have the advantage of less time being required, and, under the present mail contracts, of more frequent and regular trips. The rates of freight are about the same. The colonial government has extended the contract with the Machica Bros.' line of steamers for carrying the mails to New Orleans for five years, thus insuring a steamer to and from that port every ten days.

AMERICAN STEAM COMMUNICATION.

The United States Mail Steamship Company have established a fortnightly steam service between New York and Belize, via Jamaica; the two steamers composing the line are to make a round trip every month. The steamships to Europe do not make a round trip in less than two or three months, and at the present time have no fixed dates for sailing. This ought to be of great advantage to the American manufacturers if they were only properly represented here.

CATALOGUES AND PRICE-LISTS.

The trade of this colony being largely composed of re-exportation to the surrounding republics, it would be well for the intending exporter to this colony to study their tastes and have catalogues and labels in Spanish.

IMPORTERS OF AGRICULTURAL IMPLEMENTS.

As before stated, there is no special effort made to introduce or sell anything. The merchants as a rule import only those goods that are known to be salable or that they have orders for, and then wait for the goods to sell themselves. Those who are agents or owners of sugar estates or logwood or mahogany works command the sale of the goods that are required by their customers or employés. A large share of the trade of Belize is of this description, and the merchant who buys the produce of a planter or trader has also the first lien on his trade. It is probably owing to this fact that the business houses here try to buy and trade in everything that the colony produces, and in return supply all their wants.

The names of the firms in Belize who are importers and dealers in agricultural implements and hardware, as above described, are Messrs. William Guild & Co., B. Cramer & Co., the Belize Estate and Produce Co. (limited), John Geuth & Co., P. Lukie & Co., and Stevens Bros. & Co. All the other stores keep more or less hardware, but it is more in the house furnishing and building line.

TARIFF DUTIES.

All kinds of agricultural and manufacturing machinery is duty free, the colony having a tariff for revenue only, and there are no discriminating duties on account of the place of manufacture. All kinds of manufactured goods, with few exceptions, pay a duty of 10 per cent. ad valorem.

The only plan I could suggest for the advancement of the American trade here would be for the manufacturers to combine and send a good practical salesman here who could push the sale of goods that already have a market here, and by examining the implements already used, and the requirements of the particular kind of agriculture followed in the colony, suggest to the manufacturers the changes (if any) that would have to be made to suit the trade.

This plan I believe to be the only one that will give our manufacturers the share in the trade of British Honduras that by right ought to be theirs. The firms named in this report are all good, reliable houses, but I doubt very much if they would pay much attention to circulars, as the mails generally bring a good quantity of them. What is wanted is someone to teach these people the advantage of improved machinery of all kinds.

I would also suggest to those who send letters of inquiry to foreign countries that as foreign postage is (unlike the United States) quite expensive, they would consult their own interests by inclosing stamps to prepay the answers to themselves.

ALBERT E. MORLAN,
Consul.

UNITED STATES CONSULATE,
Belize, April 12, 1884.

SOUTH AMERICA.

WEST VENEZUELA.

REPORT BY CONSUL PLUMACHER, OF MARACAIBO.

I have the honor to answer in reference to the circular of the Department relating to agricultural machinery as follows:

AREA OF DISTRICT.

The territory embraced in this consular district contains the old State of Zulia and the State of Coro, both known under the name of "Falcon Zulia," the State of the Cordilleras, or Andes, to wit, Trujillo, Tachira, Merida, and the Venezuelan part of the Indian territory, known as the Goajira, that is to say, the western part of Venezuela. As a rule there are only small farms in this consular district, with a few large coffee plantations in the interior.

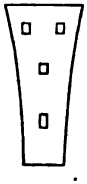
SOIL AND PRODUCTS THEREOF.

The soil is extremely fertile and produces whatever is wanted. Ours is from the tropical climate up to that of the frigid zone.

Sugar-cane, cotton, cacao, coffee, quinia bark, figs, almonds, pineapples, oranges, mangoes, and bananas grow on the lowlands, and we find on an elevation of a few thousand feet all the fruit that the moderate climates produce.

AGRICULTURAL IMPLEMENTS IN USE.

The mode of agriculture in the western part of Venezuela is very primitive, and it will be very difficult to induce the people to adopt modern appliances. American plows, for instance, are unsalable. What is used instead are plow soles of the following shape, weighing 4 pounds each.



With four nails they are fixed to a kind of beam, and dragged by mules or oxen. These plow soles are not even steel, but of the *cheapest* iron—remaining cut-offs of cart iron; they are imported from England at 16 shillings to 18 shillings a hundred pounds.

AMERICAN VS. GERMAN AND ENGLISH IMPLEMENTS.

As regards agricultural tools, hardly anything is known here but shovels, axes, machetes, crowbars, hoes, and sickles. Wooden-handled iron shovels and axes, of the name and shape of "tumba" and "media labor," are imported exclusively from the United States. As to machetes, the common classes are mostly introduced from Germany; the better ones, known as "Collins's machetes," entirely of American produce, have lost much ground, as Germany competes very successfully, both as to quality and price, with the United States.

The lower rates at which "Collins's" now sell here to meet the German competitions that have sprung up, are still 15 to 20 per cent. too high. Germany also supplies large quantities of common wooden-handled iron machetes, 18, 20, and 22 inches long, at 6 to 7 reichsmarks a dozen—$1.43 to $1.66.

Steeled crowbars come cheapest from England; also, common iron hoes, from 2 to 2½ pounds each, which cost 7 to 8 shillings a dozen; sickles at 3 shillings a dozen. Other tools for agricultural purposes can hardly be said to be in use.

HOW IMPORTED IMPLEMENTS ARE PLACED ON THE MARKET.

The manufactures of the several countries are placed on the market by commission houses in New York, England, and Germany. Merchants here do not appear to have a direct trade with the makers, nor do they seem to be desirous of having such, as with few exceptions transactions with individual manufacturers would be too small to warrant the employment of commission houses.

Small sugar-mills are imported from the States, chiefly of Messrs. George L. Squier Bros., in Buffalo. Cast-iron sugar-pans, from 40 to 150 gallons, are brought from England ("Carron brand"), and are considered superior to American make.

In this consular district there are but two sugar plantations which run the mills by steam, and perhaps not more which use water-power. All the rest have recourse to animal-power. As regards the cultivation of coffee, hardly any machinery is employed; even "coffee fans" are yet of little sale, while in the central part of Venezuela the import of American coffee machinery seems to be making headway.

The bulk of the goods is introduced into this port from and by the way of the United States by steamer at the rate of 20 cents per cubic foot, sailing vessels charging 15 cents per cubic foot.

From England goods are received mostly per steamer on through freight, with transshipment at Curaçao (W. I.), the through freights amounting to 45 shillings per ton measurement, or 55 shillings per ton weight.

Other goods coming via Hamburg per sailing vessels pay very low freight—32 shillings per 80 cubic feet or per 2,000 kilometers.

Agriculturists in this part of the country are not in position, as a general rule, to import direct; they buy from merchants established here, or who have branch houses established in the interior, who have to give at least six months' credit. All agricultural machinery, implements, and tools are free of import duty, and to get into the possession of the agriculturist in the interior they must come here packed in packages suitable for transport on muleback over bad roads and high mountains, or they must undergo repacking here for the interior. Neatness of

finish and general stylish make-up is much liked by the people here, and it cannot be said that strength and durability are associated in people's minds with heaviness and a certain amount of clumsiness; yet the people of this consular district stick very much to the old-fashioned tools they are used to, and our merchants do not find it to their advantage, in many instances at least, to foster the introduction and sale of modern appliances. Altogether the consumption of agricultural machinery in this part of Venezuela is almost null, and, taking into account the circumstances, it is difficult to see how to increase it. It is also a sad but true fact that in common iron agricultural tools the United States of America cannot compete with England and Germany; those manufacturers have also a great advantage above the United States, as the former send experienced agents into this country, who by their own observations become acquainted with the wants and customs of the country and also obtain close informations on the credit of the houses they do business with, and consequently give much longer credit than our merchants are willing to give.

E. H. PLUMACHER,
Consul.

UNITED STATES CONSULATE,
Maracaibo, April 28, 1884.

PUERTO CABELLO.

REPORT BY CONSUL WHITE.

I have the honor to report herewith, in accordance with the requirements of circular, dated February 20, 1884, "relating to agriculture and machinery."

TERRITORY.

The territory embraced in this report is the State of Carabobo, one of the seven States of Venezuela. Valencia, the capital of this State, has a population of from 25,000 to 30,000. Puerto Cabello is the sea-port of the State.

PRODUCTS.

A portion of this territory is mountainous and not susceptible of cultivation. There are, however, in the district to which I refer numerous estates on which coffee, sugar, cocoa, cotton, corn, rice, and vegetables are produced. The soil is fertile and capable of producing fine crops.

MODE OF CULTIVATION.

The mode of cultivation of these lands is generally of the rudest and most primitive sort.

Most of the proprietors of estates regard modern appliances for agriculture with indifference. Plowing, harrowing, and the use of the cultivator are almost unknown except by a few who appreciate advanced methods of cultivating the soil.

Picks, hoes, and shovels are used for breaking up or loosening the earth for planting.

In clearing up forest land for cultivation the ax and "machete" are used. In cutting timber—mahogany, &c.—for market, the ax, of course, is employed.

FOREIGN IMPLEMENTS IN USE.

Most of the picks, hoes, and shovels in use in this country are imported from England and Germany. These articles are cheaper than those manufactured in the United States, though ours are generally the best in quality.

The American "Collins" ax, however, is extensively used here, finding favor on account of superior quality, notwithstanding the higher price.

Very cheap goods are especially imported here from Germany. A notable instance of the difference between American and European implements is found in the "machete," an article much used in this country. The German "machete" is $1.25 per dozen. The American "machete" is from $12 to $15 per dozen.

There is no comparison between the articles as to quality, but the buyer here is unwilling to pay the great difference in price.

This is an exceptional case, but the fact remains that our manufacturers have to contend with a class of goods which can be sold at cheaper prices than goods of American production; and the user here generally prefers to purchase the inferior article at the cheaper price.

HOW MACHINERY IS IMPORTED.

Goods are brought to this country from England and Germany in sailing vessels, whereas almost all the merchandise brought here from the United States comes by steamer; consequently, less freight is paid on the European goods.

A limited number of sugar mills, corn and rice shellers, and coffee-hullers and fans are imported here from the United States, about all of those articles in use here being brought from the United States. The law here provides that the proprietor of an estate, by first obtaining permission from the Government, may import any agricultural machinery free of duty. The proprietor gives his order to the merchant, who sends to the United States for whatever is required.

DEALERS IN AMERICAN MACHINERY.

I give here the names of some mercantile houses in Puerto Cabello who import agricultural implements and machinery, and who would be willing to engage in such business for merchants or manufacturers in the United States: Boulton & Co., Mestern & Co., L. Seidel & Co.

HOW TO ENLARGE AMERICAN TRADE.

I would suggest if any merchants or manufacturers of these articles in the United States wish to extend their business in this direction, that they correspond with a house here on the subject.

The best way however, though it might not be immediately remunerative, would be to send a man with samples to talk with the merchants and to go into the interior upon the estates, see their wants and needs, and point out how more advanced methods and the use of different and better implements would be profitable to the user.

I regard this country as a great field to be worked, but, from the want of money, and from indifference and prejudice on the part of the people, and from other causes, it will require much time and perseverance to bring about satisfactory results.

EDWARD E. WHITE,
Consul.

UNITED STATES CONSULATE,
Puerto Cabello, June 21, 1884.

BRITISH GUIANA.

REPORT BY CONSUL FIGYELMESY, OF DEMERARA.

I have the honor to acknowledge the receipt of circular, dated February 20, 1884, relating to agricultural machinery, which only came to hand this day, having been delivered at St. Thomas by mistake, and opened by the United States consul there.

I have now also the honor to submit the following report thereon:

EXTENT OF TERRITORY.

The boundaries of this colony are very undefined, but it is estimated that there are about 46,500,000 acres of land within the boundaries claimed by the colony divided into sugar plantations, plantain farms, cocoa and coffee farms, cocoanut farms, cattle farms and timber forests. Eighty-one thousand six hundred and eighty-nine acres are under sugar cultivation; 65,000 acres under plantain and other cultivation. Forests occupy the balance.

NATURE AND PRODUCTIVENESS OF SOIL.

Alluvial soil, consisting of blue clay impregnated with marine salt, productive chiefly of the sugar cane. In some parts the soil is of a rich nature; in other parts it is impoverished, therefore requiring to be fertilized with manure.

AGRICULTURAL CONDITION AND MODE OF CULTIVATION.

The plow is only used on one plantation here, the "Better Hope," the property of Messrs. James Ewing and Company, of Scotland, the drainage of that plantation being subsoil. On the other plantations plows cannot be used, as the beds of the cultivation are only 20 feet wide by 40 feet deep, cut up and drained by ditches on account of the swampy soil.

AGRICULTURAL IMPLEMENTS IN USE.

The agricultural implements chiefly used are the shovel, hoe, rake, fork and cutlass, and steam machinery in sugar making.

Advanced appliances prevail to a great extent.

BRITISH AND AMERICAN MACHINERY AND IMPLEMENTS.

British tools, implements, and machinery are principally used, imported from England and Scotland, which give satisfaction.

Carpenters' tools, axes, ironmongery, and cutlery of American manufacture are used here.

American hollow ware has been tried at this market, but it did not succeed, as a cheaper, though a more unfinished, sort can be imported from England.

HOW TO INTRODUCE MACHINERY.

The manufactures of other countries are introduced and placed in the market through agents and branch houses.

The best manner of introducing business is through agents traveling and taking samples with them for inspection; also, illustrated catalogues and price lists for distribution.

AGRICULTURAL BUSINESS HABITS AND SYSTEMS.

The peculiarities among agriculturists and business men are to encourage all patents which would tend to economize the making of sugar and all other kinds of produce.

SYSTEMS OF PURCHASE.

Purchases of produce, such as sugar, molasses, and rum, are made in cash for the American market, and for the English market the same produce is consigned to the owners of plantations, who reside in England and Scotland, only a few being resident here, but who have their agents abroad; other articles are purchased at three months' credit, and for cash.

THE HANDLING OF MANUFACTURES AFTER IMPORTATION.

The implements are sometimes stored from the time of landing until required by the agriculturists, but in many instances they have been conveyed direct from the vessel to the wharf, thence by railroad, and over water to the plantations.

HOW MACHINERY IS IMPORTED.

The implements and machinery are imported both by sail and steam, direct from the manufacturers. There are no advantages possessed by other countries over the United States.

REQUIREMENTS OF GUIANA FARMERS.

The agriculturists desire neatness and style, combined with strength and durability, in the make of implements. In the finish of implements of agriculture, or otherwise, it is advantageous to have the name of manufacturer and place of manufacture. The efforts of manufacturers of other countries cannot be ascertained.

IMPORTERS OF AGRICULTURAL MACHINERY.

Messrs. Booker Brothers & Company; the Colonial Company (limited); Messrs. Davson Brothers & Company; Messrs. Sandback, Parker & Company; Messrs. Pitman & Grant, Mr. Alexander Barr, Messrs. George Little & Company, all of this place, are the importers and sellers of machinery and agricultural implements. They have agents in England and Scotland, and are interested in sugar plantations here. They are reliable, and no doubt could be induced to engage in the trade of American agricultural implements, machinery, &c.

TARIFF.

Machinery of all kinds is admitted into this colony free of duty. Other implements, such as carpenters' tools, blacksmiths' tools, shovels, hoes, &c., are admitted at 7 per cent. ad valorem duty. All countries

enjoy the same advantages. American manufacturers can always compete with manufacturers of other countries.

Primitive modes of agriculture are obsolete here. Advanced appliances are now generally adopted.

PH. FIGYELMESY,
Consul.

UNITED STATES CONSULATE.
Demerara, April 22, 1884.

BRAZIL.

REPORT BY CONSUL GENERAL ANDREWS, OF RIO DE JANEIRO.

AREA, SOIL, AND PRODUCTS.

The observations which I now beg to submit in reply to the Department circular of February 20, and relating to the demand for American agricultural implements and machinery, apply to the three provinces, Rio de Janeiro, Minas Geraes, and Espirito Santo, with a population of 3,000,000, which may be said to comprise this consular district.

The greater part of the surface of the three provinces lies at an elevation of 2,000 feet and upwards, and produces naturally hard-wood timber. The surface is much broken, and though there is a great diversity of soil, a considerable part consists of red clay. Only in the mineral regions of Minas Geraes is the surface very rocky, though large granite rocks and even hills of solid granite are occasionally to be met with over the whole extent. The farms are owned in large tracts, and the leading crop is coffee, and next to that are corn, sugar-cane, and tobacco.

MODE OF CULTIVATION.

While the most highly-improved machinery for cleaning and preparing the coffee after it is gathered is commonly in use on the larger plantations, the system and implements used in the cultivation of the soil are of the most simple character.

IMPORTATION OF ENGLISH HOES.

The most of the cultivation on all farms, and especially where there is slave labor, is with the hoe, an implement a third larger and much heaver than the common American field hoe. These hoes weigh from three and a half to four pounds each, though there are some in use which weigh only two pounds, and some which weigh five pounds each. At present they are mostly imported from England. Some are of steel and some are of iron. The cheapest ones, say those of iron, and weighing two and a half pounds, range in price from sixteen shillings ($3.89) per dozen upwards. They are imported in barrels of ten dozen in a barrel. I know one firm in this city which imports from England 1,500 barrels a year; and the same firm estimate that 5,000 barrels, say 600,000 hoes, are imported and disposed of here annually. The upper half of the hoe is generally painted in green or some other fancy color, and I have seen some samples that were even gilded.

I see no reason why, with proper effort, hoes of American manufacture should not find an extensive sale here. The customs duty on hoes is 15 cents per hundred pounds. Agricultural machinery, however, is admitted free.

AMERICAN AND ENGLISH AXES.

It is a fact that the American axe for good quality has the preference in this market, while for common quality the English axe is preferred, because cheaper.

IMPORTED PLOWS.

Plows, as I have stated in previous reports, are as yet very little used in Brazil. I suppose that less than 2,000 plows, all imported, are sold in this city in the course of a year, though the demand is slowly increasing. A good breaking-plow retails here at from $20 to $30, and a common plow, such as would be used with one yoke of oxen, at $10 to $12 each. The latter sort of plow appears to have the preference, as one yoke of oxen is the most convenient team for its use.

I am glad to say that the transportation charges for agricultural implements on the Government railroads of Brazil are extremely cheap. The Government discriminates very much in their favor.

The purchase of plows and other common agricultural tools is usually made by the plantation overseer. Neat workmanship of course is always attractive, and the style of finish that would be popular in the United States would probably be acceptable here.

There is a moderate and slowly increasing trade in cultivators and in corn-shellers.

HOW AGRICULTURAL IMPLEMENTS ARE PURCHASED.

Nearly all trade here in agricultural implements is on credit of from three to twelve months, and on a small amount interest would not be demanded of the planter. Importers from the United States generally do business through a branch house or commission agent there, the latter charging from 2 to 10 per cent. commission according to the labor required in filling the order. In some cases only 1 per cent. would be charged. Even with the shortest credit of three months there is in addition one month for the voyage and one month for return, in all five months; then the exporter is paid by draft on London at 90 days after sight. If the trade is direct with the manufacturer he generally demands cash.

Where an article is well known there is no objection to its bearing the manufacturer's name; but not unfrequently where a thing is new and good the exporter prefers that its source be kept a secret.

EUROPEAN ADVANTAGES.

Great Britain, Germany, and France have an immense advantage over the United States in exporting their manufactures to Brazil through their numerous and regular steamship lines. In addition, owing partly to their relatively larger population and long experience they seem able to manufacture cheaper goods. An American house here which does a large trade in coffee machinery has its machines made in Glasgow, for the reason that they can be made cheaper than in the United States. It is not necessary, of course, for me to comment on such an important fact.

HOW TO INTRODUCE AMERICAN MANUFACTURES.

Regular and frequent communication by steam between the United States and Brazil, and especially by voyages *to* Brazil, would greatly promote our export trade. I have wondered why patriotic men of capital in our country have not co-operated to establish a line of steamers to Brazil and the River Plate countries that would afford more frequent voyages than have heretofore occurred. I have said in former reports that the voyage from New York to this port is much more agreeable than is generally supposed; and as one help to the trade in question I would suggest that manufacturers or firms that are prepared to furnish implements such as this country requires would do well to have some one of their number make a visit here and carefully study the trade. Although the language of this country is Portuguese (and not Spanish, as is frequently supposed), there is generally some one in the principal business houses who speaks English.

The province of São Paulo affords, I think, a better field for trade in plows and cultivators—and in time, perhaps, reapers for cutting upland rice—than the district herein treated; but I have omitted reference to that province because it is included in the consular district of Mr. Consul Wright, of Santos, who has long resided there, and who will probably reply fully to the Department's circular. I would mention, however, that the responsible firm of Lidgerwood & Co., dealing principally in coffee machinery, and to some extent in American agricultural implements, has a branch house both at Santos and Campinas, which are important trade centers in the province of São Paulo.

IMPORTERS OF AGRICULTURAL IMPLEMENTS.

I append hereto a list of firms in this city who import agricultural machinery and implements, and who would be willing to engage in the importation and sale of American agricultural implements, where the business can be profitably done.

The following is a list of firms who import agricultural machinery and implements at Rio de Janeiro: Fernandez Amares & Co., Arens, Irmaõs (Arens Brothers), Coral & Cardozo, Laranja & Co., Lidgerwood & Co., S. Miguel, Leal & Oliveira, Mello & Loureiro, F. C. Madeira & Co., Monteiro, Hime & Co., Alfred Montanha & Co., Carneiro Rocha & Co., Henry Rogers, Sons & Co. (now import exclusively from Europe), Frederico Vierling & Co.

C. C. ANDREWS,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Rio de Janeiro, June 27, 1884.

SÃO PAULO.

REPORT BY CONSUL WRIGHT, OF SANTOS.

AGRICULTURAL MACHINERY OF SÃO PAULO.

The province of São Paulo, of which Santos is the only port of export or the only port for foreign trade, covers an estimated area of 10,000 square miles. Much of this above the Serra is sterile, especially around the cities and towns, owing to the forests having been destroyed for fuel or in search of gold by early settlers. The farms vary in size from exceptional 50 acres to a good-sized county. As an average of the farms agriculturally used, I name 800 to 1,000 acres.

The nature of the soil under cultivation and of virgin forests is rich, pliable, and generous, producing without much aid from man.

The agricultural condition may be inferred from the above, whilst the mode of cultivation, speaking generally, might be improved and economized to a very great extent, but not just now.

The agricultural tools, implements mostly used, are primitive, and of course indicative of dependence upon nature's generosity, which it seems to me has not been appreciated sufficiently to avoid the necessity of using later on and to a great extent United States agricultural implements, machinery, &c. Much of the machinery used in the preparation of coffee is made upon the plantations of some practically educated gentlemen, of metals imported, such as iron, steel, brass, &c. But the bulk of the machinery for cleaning coffee comes from England and Glasgow, because United States inventors of the best machinery find it more to their interest to manufacture there.

As to the extent to which advanced appliances prevail, I have to inform you that British tools, implements, and machinery are most in vogue. American manufactures of all kinds not only compare favorably with similar sorts from other countries, but are imitated by those countries and sold by the importers here, from both original and duplicate countries, as American or United States manufactures, whilst often many United States' articles are sold under some other nominal reputation, as I have so often written about.

HOW TO INTRODUCE AMERICAN MACHINERY.

The manufactures of other countries are introduced and placed upon the market just as sensible, long-sighted United States manufacturers and exporters ought to do. Let them be contented with small profits and growing reliable reputation; send out trustworthy, practical men, well paid, incorruptible, not to be duped by inviters "to dine," "to take tea" or (and this most essential) "breakfast," for this is many times the most unwholesome meal of the day. Or, if they do not wish to pursue this course, let them club together, procure a respectable, established firm here, their own fellow countryman or countrymen, with funds or letters of credit and full powers for the establishment and maintenance of distributive agencies in interior cities and large towns, and everything sent out be equal to or better than the sample on deposit.

The peculiarities of the business, habits, &c., are pretty much like those of other civilized tropical, agricultural, non-manufacturing countries. Purchases as a rule are made on time, through a commission merchant.

THE HANDLING OF MACHINERY.

The handling of manufactures is the same as at any other port of entry, and such are imported chiefly direct and by both steam and sail, whilst the advantages possessed by other countries over our own are due to the simple fact that our people do not respect the wise recommendations and counsels of their Government as do other peoples the mandates of theirs.

TASTES OF THE AGRICULTURISTS.

The tastes of the agriculturists, blacksmiths, carpenters, &c., trend to real strength and durability such as they have seen, know, and appreciate, as *made* in the United States, but they care nothing for a "label,"

once that that "label" misrepresents. Labels and catalogues need not necessarily be made up with great expense, because our manufacturers have or speak a language well understood by farmers and housewives.

WM. T. WRIGHT,
Consul.

UNITED STATES CONSULATE,
Santos, July 17, 1884.

OBSERVATIONS BY M. ROBERT MILLER, OF SANTOS, ON THE AGRICULTURE AND USE OF AGRICULTURAL IMPLEMENTS IN THE PROVINCE OF SAO PAULO, BRAZIL.

[Inclosure 1 Consul Wright's report.]

This report embraces the territory lying between the 20th and 24th degrees of latitude and extending westward as far as the country is settled, or about 350 miles. The lands were first taken up in extensive grants from the Governments having for their boundaries the natural water-sheds—all the lands drained by certain streams being included in a grant often amounting to many thousands of acres. These grants in the old-settled parts of the country have been subdivided among the heirs of several generations, so that farms now vary in size from small ones of 50 acres to very large tracts of many thousands of acres. The large-farm system prevails generally, and 800 or 1.000 acres are not more than average farms.

Qualities of the soil: (1) "Terra roxa," or purple lands, constitute about one-twentieth part of the whole country; is very heavily timbered, deep clay soil without any mixture of sand; is extremely productive and durable; will produce sugar-cane many years without the use of fertilizers and without becoming exhausted; is easily cultivated and generally occupies the highest portions of the country. (2) Sandy lands, usually of gray or yellow color, are also heavily timbered, very productive and easily cultivated, but become exhausted with a few years' continued cultivation. This quality takes up about one-tenth of the entire country. (3) "Serrados," or poorly timbered lands, are almost worthless for cultivation, are burned over after heavy frosts or long droughts have killed or dried up the greater portion of the vegetation on them, and are then used as pasture grounds. This quality occupies about one-fourth of the country. (4) "Campo," or poor prairies, occupy the rest of the country; are covered with coarse grass and clumps of scrub and worthless timber; are only used for pasture grounds, from 50 to 75 acres being generally allowed for each head of cattle. All the lands in this section are well watered, and streams with falls suitable for water-power to drive any kind of machinery are very plentiful.

The mode of cultivation is very primitive. All wooded lands are covered with a very dense undergrowth of bushes, vines, and briers, almost impenetrable except with the aid of a hunting-knife or other implement with which to cut a way. This undergrowth is first cut down with a weeding-hook made heavy and strong enough to fell bushes from 3 to four inches in diameter. This mass of undergrowth is left to dry for about one month, then the heavy timber is felled and left to dry two or three months longer. Fire is then set to this enormous mass of vegetation, and land is burned clear of everything except the skeletons of the large trees, which cover the land so thoroughly that it is very difficult to climb through a field even after it is burned over. Planting is then done with the hoe, or with a pointed stick, holes made and the seed dropped into them and covered with the foot; nothing more is required to insure a crop of Indian corn or black beans until they are ready to gather. The land is let grow up again for two or three years, until another growth of vegetation is secured sufficient to burn the ground over again. After lands have been burned over many times they require one hoeing during the growth of the crop to insure a satisfactory yield. This is the process of cultivation invariably with crops of but one year's growth. Coffee and cane require the vegetation to be kept under, and are hoed broadcast twice or three times per year, and sometimes oftener. The principal agricultural implements used are the weeding-hook, felling-ax, and hoe. The weeding-hook is a blade about 10 inches long, 2½ inches wide, with the end bent toward the edge so as to form a short hook at the farthest extremity. On the other end is made an eye, into which is secured a helve about 4 feet long and in a line with the blade. They are mostly made here in the country; an inferior article is imported from Europe, and a limited number of very excellent quality are imported from the United States.

The axes used here are of the Portuguese pattern. No "poll" or weight back of the helve; the eye large and made like the eye of a hoe.

Hoes are used of good quality, but very large and heavy; usually 12 to 13 inches width of blade. Light turning plows and cotton sweeps are coming into use very slowly. In the cultivation of cane and coffee much trouble and expense have been taken by various importers to introduce the use of the plow, but the people have not taken to them, though the soil could not be better adapted to their use. Grain-planters and improved cultivators, &c., are of no use with the present system of cultivation. The people don't want them, and could not use them if they had them to any extent. Great expense has already been incurred in the effort to introduce them, with literally no good result.

Machinery for cleaning coffee and making sugar is imported on a very large scale, and of the most improved and perfect styles. Several sugar factories in this province have cost from $100,000 to $200,000; also mills for cleaning coffee $10,000, $20,000, and $30,000.

The style of finish need not be changed in any way to suit this market. Farming implements and carpenter's tools of American make are preferred here already on account of their general good quality and high finish, their high price only keeping them from turning every other make out of the market.

Printed catalogues, &c., are of very little value here, unless goods are introduced and forced on the markets by active agents, who go to the farms and there practically put their tools and implements to work. Nearly all goods are introduced here by that ystem, and generally at a great sacrifice before a trade is established and a demand ecured, but the market is worth the effort, and the reward is sure to those who go about it in the right manner.

RIO GRANDE DO SUL.

REPORT BY CONSUL MACKEY.

AGRICULTURAL CONDITION OF THE PROVINCE.

The province of Rio Grande do Sul is one of the smallest provinces of Brazil, but is favored with a mild and salubrious climate, a fertile soil, and some mineral wealth.

The seaboard is sandy, but not unproductive, though but little cultivated. The interior is adapted to the raising of cattle, which forms the chief occupation of the natives; while the country around the thriving city of Porto Alegre, embroidered with green hills, dotted with forests, and intersected by three bright and broad rivers, is one of the most picturesque and fertile regions of the globe.

To this last portion the agriculture of the province is chiefly confined, and even here the cultivation of the earth is resorted to more for the supply of the simple and immediate wants of the colonists than for the profits of exportation or sale in a wider market.

Agriculture is almost exclusively conducted by the German colonists, and though the thrift and industry of these people are discouraged and depressed by the delay and difficulty of conveying to market their surplus produce, it is confidently expected that the speedy development of this country will follow rapidly upon the completion of the railroads projected or in process of construction.

Lacking its chief incentive, a ready market, agriculture has made little progress among a people naturally indolent, and whatever the future may hold, Southern Brazil does not offer at this time a broad or an encouraging field to our manufacturers of agricultural implements.

Tobacco, mandioca, beans, potatoes, and corn are raised, but in quantities greatly disproportioned to the capabilities of the soil.

The sandy plains surrounding the city of Rio Grande do Sul produce an abundance of fine onions, which are shipped to Rio de Janeiro and other cities of the Brazilian coast.

AGRICULTURAL IMPLEMENTS IN USE.

The mode of cultivation among the Brazilians is crude and primitive. The immemorial sickle for reaping and a rude native plow, drawn by oxen, which tears its way through the earth with great labor to man and beast, are the implements generally in use. Complex and expensive machinery finds no purchasers.

A simple hand-mill for grinding corn, made by the New York Plow Company, has been introduced with some success. The modern hoe is used to a limited extent. These are of English fashion and manufacture, are cheaper than the American implement, and therefore preferred.

American plows are offered for sale and are being introduced to some extent. The Eagle plow having been found to afford satisfaction, English manufacturers have fabricated an imitation, which is styled the Anglo-American Eagle plow, and is exhibited side by side with the handiwork of the Eagle Plow Company of North America. By some the English imitation is preferred, being thought to combine a lightness, durability, and perfection of finish wanting to the American article. They are, however, more costly, and their superiority is a matter of opinion, not wholly undisputed, so that they have not succeeded in any degree in pushing the American Eagle from the market. In plows the smaller sizes find a more ready sale.

They should be lightly made, but with the appearance of strength. Painted designs, sheafs of wheat, red and blue lines, if they have any effect, diminish the salability of the article.

While a finer finish will make them more acceptable to the public, this should consist rather in superior smoothness of execution and symmetry of outline than in gaudy colors and useless ornament.

English manufacturers have made the attempt to induce the adoption of a plow slightly in advance of, but similar to, the appliance made by the native smiths. This compromise instrument, however, meets with little success.

HOW FOREIGN IMPLEMENTS ARE INTRODUCED.

All commodities of this kind are introduced and placed on the market through the resident dealers, who will require in their purchases indulgence of from two to three months. It is of importance that the name of the manufacturer and place of manufacture should be placed on the implement in a conspicuous place.

It has sometimes occurred that advertisements of a machine or implement contained a minute description of the article and a list of its manifold advantages, yet left the reader in ignorance of the place where it was to be purchased.

HOW TO INTRODUCE AMERICAN IMPLEMENTS.

While the present dormant state of agriculture continues, it would not prove advantageous that our manufacturers canvass this country by means of agents from the United States, but their sales might be extended by sending circulars and advertisements to the principal dealers in the province. For this purpose I would suggest the following respectable houses: Francisco Campello and Thomern & Co., Rio Grande do Sul, Joao Pinheiro & Co., and Liguira & Co. of Pelotas, Manoel Balthazar and Ribeiro & Co. of Porto Alegre.

The Brazilian Government, which with its exorbitant duties on imports and exports is crushing its own prosperity as between the upper

and the lower millstone, has wisely left implements of agriculture free of all duty but the insignificant one of 5 per cent. (expediente) on their value.

This exemption, other things being equal, places the dealers here on an equal footing with those of Montevideo and the River Plate; but a leading merchant has informed me, that selling American farming implements at the smallest profit on their cost, he has been surprised to learn from his customers that the same articles could be purchased more advantageously at Montevideo and Buenos Ayres. On investigating the matter this was found to be true, for the reason that to some the catalogue prices were abated, thus placing at a disadvantage those dealers who, purchasing from the same manufacturers, had not stipulated for lower terms.

The unfairness and commercial impolicy of such a course is evident.

BECKFORD MACKEY,
Consul.

UNITED STATES CONSULATE,
Rio Grande do Sul, May 20, 1884.

NORTH BRAZIL.

REPORT BY CONSUL ATHERTON, OF PERNAMBUCO.

AREA AND PRODUCTS.

The provinces of Pernambuco, Rio Grande do Norte, and Ceara are embraced in this report.

There is a great variety of soil in the large extent of country embraced in this report, and probably quite as great an amount of good land and fine climate as in any other country in the world, but it has not been thoroughly surveyed and cannot be at present; but as the railroads are built, exploration will go on. There is no doubt in my mind that if they would build such railroads as we have built and are building to these unexplored regions, the development would be faster; but these roads cost from $40,000 to $60,000 a mile—ours from $7,000 to $15,000. I think if they had more Yankees out here to develop their country it would be better for them. There is a fine wheat country within sixty or eighty leagues of this place, but the extent of it is not known. The Government owns the land, and with proper changes in their laws relating to immigrants, could probably find capital to build a road if they would grant alternate sections of land, as our Government did to the Northwest and Milwaukee and Saint Paul Roads and others.

Most of the country is in its primitive state, and except for cane the modes of cultivation are primitive.

MACHINERY IN USE.

The sugar planters, most of them, have the best machinery. The central sugar factories, when built, will cause a great increase in the production of sugar. There seems to be some delay in building those of North Brazil, but two will be in operation in this neighborhood by the next crop. The one which broke down is now nearly ready. The machinery of their factories all comes from England, as also most of the machinery used by the planters. Some are made here, there being some large foundries here; all but one English; that one is managed and owned by Brazilians.

AMERICAN IMPLEMENTS.

American plows, shovels, hoes, &c., are used here and liked better than any other make.

HOW MACHINERY IS INTRODUCED.

By agents, branch houses, commission houses, and all the means employed in the most advanced countries. I know of no place where there is more activity and intelligence displayed by those engaged in business than here.

HOW PURCHASES ARE EFFECTED.

There is quite enough credit, but they are more careful in giving credits than in previous years. The peculiarities of the business habits and system are such as are to be expected from the climate and the race, and also from the fact that they are gradually getting rid of slavery, but the people are quick to learn, and as education of the people is going on all the time, I think good results will be shown in the coming twenty years.

MORE CREDIT THAN CASH.

The planters have the same way of doing business that our Southern planters had before the war, most of them being in debt to their factors.

HOW MACHINERY IS HANDLED IN BRAZIL.

By railroads, boats, lighters, primitive ox-carts, and on the heads of men.

HOW MACHINERY IS IMPORTED.

Direct by steam and sail; the advantage other countries have over us comes mostly from their goods being cheaper than ours, and also that they are more liberal in their credits.

WHAT THE BRAZILIANS WANT.

No better judges of qualities and values can be found anywhere than among this people.

As before stated, all the most improved methods of introducing and selling goods are as well known here as in New York.

IMPORTERS OF AGRICULTURAL MACHINERY.

Messrs. H. H. Swift & Co., of New York, with the house here; Messrs. Henry Forster & Co., Messrs. Allan, Patterson & Co., who have a foundry here; Bauman & Co., Messrs. Amswick & Co., of New York, who have agents here. The American part of the business is as thoroughly worked as it can be in the present state of the country. I have no doubt but Messrs. H. H. Swift & Co., and Messrs. Amswick & Co., of New York, will inform manufacturers if the goods made by them can find a good market here.

As before stated the people are quick and intelligent, and will soon discover the value of modern improvements. A cargo of American cars has just arrived here, ordered by one of the railways, and I have no doubt there will be other orders.

HENRY L. ATHERTON,
Consul.

UNITED STATES CONSULATE.
Pernambuco, May 1, 1884.

URUGUAY.

REPORT BY CONSUL RUSSELL, OF MONTEVIDEO.

I have carefully considered the circular of February 20, 1884, received a few days since, and after noting the important introductory remarks of the circular, and the several points of inquiry suggested, for reply would respectfully say that the first point, viz, "the extent of territory embraced in reports, and its division into farms," involves *statistics* which are as yet not fully reliable, for the following reasons: This nation is very young, scarcely numbering thirty years of peaceful, settled labor in the country districts, and these utterly prostrated and devastated on more than one occasion by foreign invaders, and in one instance quite ruined by a military occupation of nine years.

Political economy is in its infancy and correct statistical information very difficult to obtain, from the same causes which have affected older countries, viz, a distrust of rulers, a suspicion that such knowledge would lead to oppression, and could have no other aim but military service or increase of taxes.

AREA.

The area of this republic is estimated at 45,000,000 acres. It is estimated that 500,000 acres are devoted to tillage and 44,500,000 acres left for flocks and herds. The estimated annual average yield of wheat is 1,500,000 bushels. The farms are what may be called small, from 20 to 200 acres.

SOIL AND PRODUCTS.

The quality of the soil is unsurpassed; very productive; frosts scarcely known.

MODE OF CULTIVATION.

Far from exhausted, and very productive; manures never used, nor could any be obtained; artificial manures totally unknown. The colonist farmers are nearly all emigrants from the Canary Islands, and their descendants, and Italians and Swiss. The natives nearly always confine themselves to cattle-breeding.

IMPLEMENTS AND MACHINERY IN USE.

The hand tools, such as hoes and grips, are of clumsy Italian pattern and make; harrows and plows, of American make; hay-forks, shovels, thrashing machines, and steam power, of English make; reapers and harvesters, exclusively American.

Foreign tools, &c., are used to a very limited extent, generally speaking. American implements are thoroughly appreciated, but are considered too costly, although well worth the difference.

AMERICAN VS. OTHER FOREIGN IMPLEMENTS.

American manufactures compare with others, as a matter of course, most favorably. As a rule the very name is a passport and certificate, but with the masses price, and not quality, is their test of excellence.

HOW FOREIGN IMPLEMENTS AND MACHINERY ARE INTRODUCED.

Manufactures are nearly in every instance introduced by local houses or dealers buying and paying for the goods in the United States or in Europe, and retailing and distributing the articles as required. American and English manufacturers have several times tried the experiment of establishing their own agencies, but seldom or never with success, the reason being that the country is small, wants easily supplied, and the demands for any one thing, except food, being too spasmodic and not sufficiently large to require attention exclusively to any one branch; and manufacturers have long ago found it more to their interest to treat with and sell to the local distributors as needs arise.

HOW TO INTRODUCE MACHINES AND IMPLEMENTS.

For the present no means have proved so satisfactory as the existing method as set forth in the foregoing paragraph, the dealer's interest and experience being the best regulator of the supply and demand.

BUSINESS HABITS AND CUSTOMS.

A very large section of the farmers have to hand over their crops to the camp-storekeepers, to liquidate the debts for cash and effects supplied by them during the winter. The farmers are, by the way, very frugal and temperate. The camp-storekeepers sell the wheat in the town corn market in this city.

It is believed that the storekeepers deal very fairly by those who raise the crops; indeed, they are too shrewd and well informed to allow themselves to be prejudiced to any extent. The farmers are saved the trouble and frequent loss in carting their wheat to town. In the case of their doing so the hired carts (where they do not keep their own) allow the grain to remain in the carts for a part of three days, after which, if unsold, the owner must pay a heavy demurrage or sell his grain for what the buyers may conspire to offer him. The storekeeper can generally command better information, as to ruling prices, or may have better connections, or can afford to wait for a better market, and possesses resources not available by small farmers.

As to the habits of the citizens of Montevideo, they are highly cultivated, and copy the French, generally, in style, dress, and studies.

HOW PURCHASES ARE EFFECTED.

All sales are on time—five and six months, excepting the articles produced in the country. These, as in all countries, are paid for in cash.

HOW MACHINERY IS INTRODUCED.

The only goods sold to arrive are such as will not support the expense of warehousing, viz, cargoes of American pine, salt, coals, and small quantities of rice, sugar, wine, &c. Other imports are mostly landed in bond, and taken out for consumption here, or reshipped for ports in the rivers Plate, Parana, or Uruguay, and bound for the conterminous province of Rio Grande, Brazil. Any attempt to *push* sales is at the expense of profit.

I may mention that the landing charges in this harbor are much below those of Buenos Ayres.

HOW MACHINERY IS IMPORTED.

The imports are always direct. European goods, nearly all, by steam; those from the United States by sail, and by Italian bottoms; vessels, to judge by the delay, of four knots per hour or 100 miles a day. Europe has a decided advantage over the United States, for while goods may be ordered therefrom, and may be brought here within sixty to ninety days of their being ordered, the same operation from New York, not unfrequently requires five to seven months.

AGRICULTURAL REQUIREMENTS.

Taste, as generally understood, does not exist among farmers, with whom the *first*, the *second*, and the *third* consideration is cheapness, even at the expense of durability. Most of them seem to think more of a common English shovel at 75 cents, that will last a month, than a $2 American tool which would do better work and last for years. It is just to say that this feature is gradually righting itself and working its own remedy.

The advisability of having our manufactures finished in any particular style—whether it would be advantageous to have the names of manufacturers and their places of manufacture, together with labels, illustrated catalogues, &c., in the language of the country.

The reply to this inquiry is *certainly;* our manufacturers and importers are fully alive to its importance, and do attend thoroughly to this particular.

EFFORTS OF FOREIGN MANUFACTURERS.

The efforts which have been made by the manufacturers of other countries for the enlargement of their sales, how long such efforts have been made, and the results thereof.

The reply to this is anticipated fully in paragraph 7. The Americans long took the lead in this direction, but these and European agencies have been relinquished as found to be not expedient.

FIRMS ENGAGED IN SELLING AMERICAN MACHINERY.

The names of men or firms who import agricultural machinery and implements, and who are engaged wholly or partly in the business of selling the same, and the nature of their business connections with the countries of manufacture, and the names of reliable men or firms who are now engaged, or who would be willing to engage, in the importation and sale of American agricultural implements, &c.

The principal importers of American goods are John Shaw, Barere, Grassie & Co., J. K. Theobold & Co., D. Le Bas & Co., Matthew, Pinsent & Co., Trabucati & Co., Crosto Borelli & Co., Bell, Towers & Co., Thomas W. Howard & Co., Charles S. McLean, C. Brandes & Co., Rossel Hermanos & Co., and a few others, but none devote themselves exclusively, the demand being, as before stated, insufficient, and competition active.

As to who would be willing to engage it is impossible to ascertain without privately interviewing parties, and none would respond. I am told by one of our most prominent business men, unless your representative had proposals, terms, &c., to submit—all importers, as a rule, pay for their goods—*American* goods, sent on consignment, that is to sell for commission, is a matter of rare occurrence, whilst from *Europe* it is the rule.

TARIFF DUTIES.

Information concerning expense incident to importation, &c.

Tariff: Hay-forks, picks, scythes, mills, machinery, hoes, reapers, plows, harrows, corn-shellers, 5 per cent. duty and 5 per mill property tax; shovels and spades, 25 per cent.; scales, 25 per cent. All nations are on equal footing. The old "most-favored-nation" clause is obsolete.

MISCELLANEOUS INFORMATION.

Every information which will enable American manufacturers of agricultural implements and machinery, &c., to enter into competition with other nations, &c.

American goods have all the preference they can reasonably desire or claim, short of absolute possession of the market.

Especial attention is invited to those people who still adhere to primitive modes of agriculture and cannot be expected to adopt our advanced appliances, &c. Merchants and manufacturers may be relied upon as being sufficiently alive to their own interests to watch carefully and cater to *every taste*, which in fact they do constantly.

Where a market gives promise of sufficient inducement, our manufacturers will doubtless adapt themselves to requirements, even if such requirements necessitate a deviation from present advanced styles. The correctness of this assertion is evidenced by the elegant and costly trade catalogues, plates, &c., constantly distributed and circulated by American merchants and manufacturers.

A. L. RUSSELL,
Consul.

UNITED STATES CONSULATE,
Montevideo, May 19, 1884.

PERU.

REPORT BY ACTING CONSUL BRENT, OF CALLAO.

I beg to submit a brief reply to the interrogatories contained in the circular from the Department of State, dated 20th of February last, and received at this consulate on the 19th ultimo, relative to the employment of American agricultural machinery in Peru.

FOREIGN TOOLS AND IMPLEMENTS IN PERU.

The sugar-producing interest in this country is by far the most important in an agricultural point of view. Peru imports her wheat and barley from Chili, save in the remote districts in the interior, where the amount of those cereals required grows almost spontaneously, and from whence, owing to the difficulties and cost of transportation, the coast cannot be supplied in competition with the products from Chili. And on account of the limited quantity of the interior production the small farmers in those districts are not inclined to incur the heavy expense incident on the purchase of implements brought from abroad—I refer to those of the most modern manufacture—apart from their attachment to the tools to which they have always been accustomed. The few articles of agricultural use which they employ, such as spades, hoes, scythes, sickles, &c., are generally of English manufacture, and it is a peculiar-

ity of the people of the far interior that from father to son they continue purchasing from the same establishment, and the same classes of tools must be kept on hand to satisfy their demand. When the Oroya Railway and the projected cart roads reaching over to and opening the wonderfully fertile lands along the Peruvian headwaters of the Amazon are completed there may be a market established for the improved implements turned out by American workshops. Just now, and also taking into consideration the poverty of the country, I do not think that the attempt to introduce such wares would meet with success.

AMERICAN MACHINERY IN PERU.

On the coast it is quite different, and American built machinery, agricultural tools and implements, mills and gins, to the amount of probably from three to four millions of dollars, have been imported into this republic, and are in use on the sugar, cotton, and rice plantations along the northern coast of Peru. Some of these estates "Puente" and "Lurifico," for instance, are said by experts, to be more perfectly equipped than the best to be found in Cuba. English and French manufactures for agricultural purposes, steam plows and the like, are also employed, but the United States have almost the monopoly for the supply of machinery to the sugar planters. Rice mills, of the most improved and costly manufacture, imported from our country, are, and have been for years past, in successful operation at Chiclayo and Ferriñafe. In most cases American engineers or mechanics act as the intermediary between the planters and the manufacturers, preparing the plans, supervising the construction in the United States, and directing the setting up here. Therefore it may be asserted that, in proportion to the extension of the field of operations, American machinery and agricultural implements for the class of estates mentioned, have already a profitable market established in Peru.

Referring to my remarks regarding the other agricultural pursuits, I wish that it was in my power to make a similar observation.

HOW TO INTRODUCE AMERICAN IMPLEMENTS.

But if the manufacturers of sowing, reaping, and thrashing machines, of the smaller agricultural tools, and of all appertaining to the trade, should desire to open relations with this Republic, I believe the most practical method would be to send some thoroughly experienced person out here, who, in a few weeks, would be enabled to form a decided opinion as to the probability of advantages.

TARIFF ON MACHINERY.

American manufactures are subject to the same duty as those imported from other countries. These duties at present are by no means excessive, a small ad valorem charge being imposed, and many classes of agricultural machinery are almost free from this burden.

IMPORTERS OF AGRICULTURAL MACHINERY.

There are several most respectable hardware and agricultural-machine warehouses established at Lima; among them I may mention Messrs. G. Menchaca & Co., Evaristo Barrios, and E. Humphreys & Co., any of whom would willingly answer the questions that might be addressed to

them on this point with a view to business. There are also machine-shops and foundries at Lima and Trujillo, which turn out fair work for the smaller estates, and repair the plant of the larger ones.

H. M. BRENT,
Acting Consul.

UNITED STATES CONSULATE,
Callao, May 8, 1884.

ECUADOR.

REPORT BY CONSUL BEACH, OF GUAYAQUIL.

AREA AND CONTOUR.

The domain of Ecuador covers an area of about 150,000 square miles, and for diversity includes a soil and climate scarcely equaled by any other country in the world. About one-fourth of the domain is of tide-water level, and the other three-fourths of various altitudes, embracing hills, mountains, and mountain valleys, the highest altitude being that of Chimborazo, 21,220 feet. There are about twenty mountain summits that are more than 10,000 feet in height. The great differences in altitude will serve as a partial explanation of the wide diversity of climate, and variety of soil productions, both of which are much greater than ordinarily would be supposed possible in the equatorial region.

The mountains through all of volcanic origin, are yet somewhat varied in their elements, but each has the characteristic of quite rapid decomposition, which decomposition provides a soil more or less fertile for all of the mountain surfaces, and affords abundant material to be carried down by the streams to the mountain valleys, and to the level lands adjacent to the numerous rivers in the lower sections. The level sections of the lower country are doubtless a water formation—a composite of the mountain elements, possessing in the main the same characteristics, but being slightly varied in proportion as the different elements have been commingled. The soil as formed by commingling is better either in the mountain valleys or the lower sections of country than in its natural state on the mountain sides, as the "bottom lands" of the Mississippi and Alabama are more fertile than the sections whence they derive their elements of fertility. Ecuador on both sides of the Andes abounds in rivers and smaller streams, which greatly enhance the productions of the country; and the rivers, likewise, provide a water communication with the markets. All of the soil in the level sections, both of the lower countries and mountain valleys, might be utilized for the growing of extensive crops. Large sections of the mountain sides might also be utilized in growing grapes and other fruits, all of whose products have a good local value, especially the wine produced from native grapes.

CLIMATE AND CROPS.

The climate of Ecuador is exceedingly diversified, having the wide range from an average temperature of 75° Fahrenheit on the Pacific coast and upper tributaries of the Amazon to that of the summits of the Andean range, where there is perpetual freezing, snow, and ice.

Between these extremes there are all the degrees of variation which the extremes indicate—everything from the tropical to the arctic. Ice, always obtainable near Chimborazo, was an article of merchandise until supplanted by the less expensive productions (cost of transportation to market considered) of ice-making machines. This diversity of temperature is continuous, there not being more than an average of five degrees change between the two seasons of the year—winter and summer—with their order in the United States reversed, it being winter in Ecuador when it is summer in the north, and *vice versa*. The most important changes incidental to the climate are those from the wet to the dry seasons, which follow in their order the Ecuadorian winters and summers—there being heavy rains during the former, and scarcely a drop of rainfall during the latter. The slight change of five degrees between the average temperature of winter and summer is given no consideration in growing crops; but great importance is attached to the rainy season, for it is during that season, and the continuance of its influence, that all of the annual planted crops are produced; and the standard products—coffee, cocoa, rice, cocoanuts, and certain fruits—are either made prolific, or the reverse, as the rains are favorable or otherwise. Thus the rainy season—the time of its commencement and duration—is a matter of great consequence in the prosecution and results of Ecuadorian agriculture.

The difference of temperature resulting from the difference of altitude, as previously noted, permits the growing in Ecuador of nearly all of the fruits and varieties of grain and vegetables grown in all other parts of the world. There can, of course, be produced in profusion everything pertaining to the tropics, and in addition wheat, oats, barley, apples, pears, peaches, cherries, strawberries, and vegetables of every variety. Nature's bestowment on Ecuador is almost prodigal; she has many natural advantages that might be rendered a great blessing; but the people appear to be wanting in the main essentials of industrial progress, and the country makes but trifling advancement, as will be shown by a description of the implements of agriculture in use.

AGRICULTURAL IMPLEMENTS IN USE.

The implement of most varied uses is the machete, a heavy blade about 2 inches in width, 2 feet long, with a handle about 5 inches long on one end. Most of the blades are straight, but some of them have a slight upward curve. A field is prepared for rice by cutting down all the weeds and bushes with a machete. Then an opening for the seed is made with a broad ended bar, and the seed dropped in. When the rice comes up the grass and weeds between the rows is cut with machetes, which operation is repeated at intervals until the rice is big enough to take care of itself. For Indian corn and sugar-cane the land is prepared in the same manner, and the planting and cultivating is performed with the same tools and in the same manner as previously described. The rice is cut with sheath-knives, and the corn and cane with machetes. The rice after being cut and cured is first trodden out by peons, and then put into large wooden mortars and hulled by the use of large wooden pounders wielded by the aforesaid peons. All of the Indian corn is shelled by rubbing off the kernels with a cob. Plowing is done in the interior for grain and potatoes with plows made by pointing round sticks with iron—the plows being similar to those in use in many portions of Italy. There are no harrows, field-rollers, cultivators, reaping and mowing machines, drills, or horse-rakes. In the cul-

tivation of potatoes and other vegetables large hoes are used—the kind used in most of the Southern States. All kinds of grain are cut with machetes.

A few of the sugar estates are supplied with excellent machinery, consisting of engines, cane crushers, evaporators, &c. On more of them the old methods are being followed, the cane juice being expressed by ox-power, and its boiling is done in old-fashioned iron kettles. But there has been in the introduction of new sugar machinery more progress than in any other department of agriculture, and mainly for the reason that the planters by travel have learned something from the outside world.

IMPORTED IMPLEMENTS AND MACHINERY.

Timber cutting and hewing is done with broad-axes having straight belves. The timber sold is drawn to the rivers by oxen having yokes strapped to their horns, and a pole strapped to the yoke. Chains are not used, the logs being attached to the ox-pole by rawhides. The small wood, from 3 inches in diameter down, is cut with machetes. Saws are not used on the plantations. The tools in use are machetes, hoes, iron-pointed stick plows, bars (wedge-shaped at one end), sheath-knives, broad-axes, sugar-mills, evaporators, steam engines, ox-powers, and iron kettles. There is one rice-mill in the country. Most of the machetes, broad-axes, and steam-powers are obtained in the United States. All the sugar-mills and evaporators are obtained in the States. The iron bars, sheath-knives, some of the steam-powers and machetes, and all of the iron kettles are supplied from Europe. The articles named show to what extent advanced appliances prevail, which is very small. The articles manufactured in the United States take the lead. There are no very important articles of farm machinery on the market, for they are not kept for sale, and when used are obtained by direct purchase, or on orders through agents. Such articles as corn-shellers, stalk-cutters, rice-thrashers, plows, harrows, road-scrapers, firewood-sawing machines, and many other articles might be introduced by demonstrating their practical value. The people are not averse to the use of machinery; have a general dislike for hard work, and would readily adopt the use of any machinery whose practicability was clearly shown. The showing must be pushed on to them, as they are not seeking the new or novel, and are neither speculative nor aggressive.

WHAT THE ECUADORIANS WANT.

Large purchases of machinery are sometimes made for cash; sometimes part cash and part on time; at other times on a credit of three or six months, usually the latter, when credit is given. The importations are usually made by steam vessels, and with no particular advantage to any country. Machinery should always be strong, as it usually receives severe usage. A showy article would sell much quicker than a plain one, other things being equal. Usually bright-colored paints would be sufficient. The people read but little, and a practical demonstration of what a machine can accomplish is much more useful than a great amount of printed matter, though the latter is oftentimes very serviceable. It does not appear that any systematic effort has ever been made to introduce farm implements into Ecuador. There are no duties or taxes on farming machinery. As a rule the haciendas or estates are large; that is, ranging from 500 to 10,000 acres. Comparatively but a small portion of the arable land is utilized, and this

country, with a population of 1,000,000, might well sustain at least twenty times that number.

Wind-mill power can not be made available, as the daily breezes seldom have a velocity of over four miles an hour. Fuel is plenty, and machinery for pumping water for land irrigation during the long dry seasons should have a ready sale, if not too expensive. In rainy periods there is much trouble, and often serious loss in drying cocoa. The fruit evaporators, such as are in common use in Western New York, would doubtless do the work well, and would have a large sale if their merits were known.

IMPORTERS OF AGRICULTURAL IMPLEMENTS.

There are no firms who make a business of importing machinery of any sort. The following named are hardware dealers at Guayaquil, who sell all small tools and implements in their line: Damian J. Medina, Manuel Orrantia, Madinya & Co., N. Norero & Co., Duran & Co., Teran Hermanos, and Manuel J. Carbo.

HOW TO INTRODUCE AMERICAN MACHINERY.

Apparently the surest way to extend the sale of United States farming machinery in Ecuador is to send out a practical farmer to teach some of the people how to use the machinery, and to show them its economy. It may be slowly introduced by other methods.

HORATIO N. BEACH,
Consul.

UNITED STATES CONSULATE,
Guayaquil, May 10, 1884.

WEST INDIES.

BRITISH WEST INDIES.

THE BAHAMAS.

REPORT BY CONSUL M'LAIN, OF NASSAU.

I have the honor to acknowledge the receipt of Department circular, dated February 20, in which I am requested to submit to the Department such information concerning the condition of agriculture in this colony, and the wants of the community in the way of improved agricultural machinery and implements, as will enable our manufacturers to extend their trade in these products.

I regret to say that there is very little prospect of our manufacturers finding in these islands any extensive trade in agricultural tools; and as for any sale of advanced appliances in the way of farming there can be none whatever.

Agriculture in the Bahamas is not, and from the nature of the case can never become, an industry of any special importance, for the reason that the formation of the islands composing the group and the general character of the soil are not favorable to that pursuit. The bulk of the land is so rocky, and most of the soil, where any at all exists, is so thin and sandy, and the surface is so uneven, that only the simplest kinds

of implements can be used to any advantage whatever. No improved machinery is possible; indeed, in the cultivation of four-fifths of the tillable land of the colony, even an ordinary plow would be of no more use than a piano.

The hoe, spade, rake, pick, machete, and ax are about all the tools a Bahaman farmer can find any necessity for in the working of his land. He finds the land covered with a growth of brush or chaparral, and this he clears away with his ax and machete. The pick, spade, and rake will enable him to loosen the soil between the rocks for planting; and with the hoe he will cultivate the plant and keep down the weeds. And these simple and primitive operations are the alpha and omega of farming as it is now, and probably always must continue to be, practiced in the Bahamas.

The agricultural productions of the colony are oranges, bananas, cocoa-nuts, pineapples, corn, sugar-cane, and vegetables. There are to be found many extensive orange orchards and pineapple plantations; the other articles are raised only in small patches scattered about where the soil will permit planting, and of very limited extent. Some sheep of fair quality and some cattle and horses are raised, but the extent of even passable grazing land is exceedingly small.

To carry on the above-mentioned industry only the simple tools specified seem to be required, indeed are all that can be employed to any advantage; and as only a very small proportion of the inhabitants are engaged in agriculture as a pursuit, a comparatively limited trade in farming tools can be expected.

The tools in use are imported from Great Britain and the United States, the latter country supplying substantially all except the hoes and rakes, which come from England. English hoes and rakes are preferred because they are vastly cheaper, and because not being so light and highly tempered they are less liable to break when they come in sharp contact with the rocks, which is frequently the case. Our manufacturers of hoes and rakes can easily control this market for those articles, as they do for the others, if they will make them a trifle heavier, less highly tempered, and will put down their prices. The colonist will pay nothing for style and finish. He doesn't object to a fine temper in his ax or machete, but he loses his own temper when he finds too much in his hoe or rake. English hoes and rakes are sold here for one-third the price of the American tool, and price is apt to control trade the world over.

These tools are sold at retail in many of the shops directly to the farmer, and generally on credit. The principal importer of agricultural tools and hardware in the colony is the firm of Messrs. R. H. Sawyer & Co., doing business under the style of "The General Hardware Company," and located at Nassau, N. P., Charles S. Rae, manager. The firm is first class in every respect, and our manufacturers who wish to introduce any of their products will do well to correspond with this establishment.

I may add, in conclusion, that about four-fifths of the population of the Bahamas are engaged in the pursuits of sponging, fishing, turtling, cutting dye and cabinet woods, raking salt, gathering shells, trading, and in wrecking, leaving comparatively few out of a total population of only 45,000 to find a livelihood in tilling the scanty soil.

The agricultural produce raised in the colony utterly fails to supply the food wants of the people, large quantities of the necessaries of life, such as flour, corn, hominy, meats, butter, lard, groceries, &c., being constantly imported from the United States. Farming in the Bahamas is

conducted under such difficult conditions as to make it improbable that any extensive trade in agricultural implements will ever be developed, either by our own manufacturers or by any others, but it is satisfactory to be able to say that the United States already control two-thirds of the import and export trade of the Bahamas, and are largely supplying all that the colonists need in the prosecution of their numerous industries.

Whilst nature has bestowed upon the people of the Bahamas but little soil to cultivate, and so placed agriculture as it were under a ban, the waters which surround their island homes are full of marine wealth, and their prosperity comes from the sea more than from the land.

THOS. J. McLAIN, JR.,
Consul.

UNITED STATES CONSULATE,
Nassau, April 5, 1884.

ANTIGUA.

REPORT BY CONSUL JACKSON.

Antigua is nothing if not sugar; and following this, with little exception, the implements of agriculture in use are solely for producing the sugar-cane. We will consider such implements as the use of them occurs, and the first in order would stand plows.

PLOWS AND PLOWING IN ANTIGUA.

I have frequently examined the plows in use here, both in their construction and their workings, and have to regard them as substantially made, but most unsatisfactory when brought in contact with the tenacious soil. Four or five yoke of oxen and three drivers labor with great difficulty to plow as much as an acre per day. The upturned soil is left standing on edge, and badly broken; and a field said to be finished has about as unfinished an appearance as is possible to be attained. The plowshare cuts about 6 inches, while the mold-board has a width of 10 or 12 inches; this difference to a practical plowman never can be reconciled, because there remains a strip of some 6 or 7 inches practically undisturbed.

The reason of such construction arises, I have to believe, from the intense tenacity of the soil in most places; and the desire to place as little iron surface as possible in contact with such soil.

The opinion of planters seems to be that a plow will not scour, and any point tending otherwise cannot succeed. Nothing is done to help a plow in this respect; in fact, quite the contrary is the rule. For instance, when an implement is sent to the blacksmith for repairs, instead of putting in bolts with nuts attaching the mold-board to the frame, such bolts are headed on the outer surface in a very clumsy manner, presenting obstructions and inequalities of over an eighth of an inch frequently. With half a dozen such bolts, how impossible for a plow of any description to do clean work in the field. While the soil is greatly to blame for such a state of affairs, I believe that a cast-steel plow, such as is manufactured by many plow works in the United States, must clean, and with this point in view I have already induced a large Western firm to place a plow in my hands for a trial; and a few days will settle this point in part to my mind.

A considerable part of the plowing is done by

STEAM PLOWS,

a system quite expensive, but very satisfactory in its results, for the ground is stirred up to any depth desired. An average of 3 acres per

day is plowed with the steam plow. It is of Glasgow manufacture, I believe, and consists of two engines stationed one on either side of the field, connected by an endless wire cable which drags a tilting double-gang plow to and fro across the field.

SULKY-PLOW TRIAL.

Some three years since, at my instance, a sulky-plow was sent out from a Western firm for trial. Owing to the uneven surface of the ground left by the peculiar manner of cultivation, the trial proved a failure, the plow proving too sensitive to the rough ground, although it was recommended to overcome such a difficulty.

HARROWS AND CLOD-CRUSHERS.

While the oldest planters remember such an implement as a harrow, such an implement is considered an unnecessary article because the soil becomes thoroughly pulverized in the course of time through the action of the elements, and quite as soon as needed for planting purposes as a general thing. For the same reason clod-crushers would find no market under the present régime of cane cultivation.

CULTIVATORS.

Some time ago I introduced the Diamond five-toothed cultivator, such as is extensively used in the United States, and they were reasonably well received; in fact, they were used in all parts of the island and a number are still in use. The enemy of good and serviceable cultivators is

FEMALE CHEAP LABOR.

This labor, which engages to keep fields clean of weeds by contract, is plentiful and cheap, and when hired by the day commands only 16 cents for nine hours' labor with the hoe; but on account of frequent droughts, the bane of this island, hoe culture is considered inefficient, as it does not stir the soil enough to prevent a rapid evaporation, and the attention of progressive planters is directed towards an implement, yet better than the common cultivator, the

WALKING OR RIDING SULKY CULTIVATOR,

made to suit the inequalities of surface before referred to, and capable of going over 10 or 12 acres of ground per day.

There is no doubt that an implement of that kind would be universally received, and its effects on sugar cultivation would be highly satisfactory. In order to explain clearly the shape or condition of the ground under cultivation of cane, it would be necessary to make some diagrams, which I dare not attempt, to be placed in connection with this article, but, at the request of any manufacturer or inventor, I could make it reasonably clear.

CANE HARVESTERS.

Three years ago I directed the notice of the Department of State to the need of a machine calculated to reap sugar-cane, and I think a copy of the report might be inserted here, believing it to be of sufficient importance to insure my doing so. The report runs as follows:

I beg the Department to bring to the notice of American inventors the opportunity presented them of constructing a machine driven by horse-power, for the purpose of reaping sugar-cane.

The present system of reaping sugar-cane is tedious, inefficient, and expensive, and can be compared to the harvesting of grain by the use of the sickle of half a century gone.

The system now in vogue is confined to the use of the "cane bill," an instrument resembling the butcher's cleaver. One cane at a time is severed, topped, and deposited in its respective heap. One of the conditions imposed upon the laborer is to sever the cane close to the ground, which is highly necessary to the proper development of the shoots expected for the following crop. This condition is often abused, and in the necessitated haste of securing the crop, the laborer is often retained to the detriment of the interests of the planter. If the canes could be severed by a machine, evenly with or slightly beneath the surface of the ground, the advantage gained in this respect alone would command the attention of every well-meaning planter in the West Indies.

There are grave difficulties to be overcome in the invention of a desirable machine. One is the exceeding strength of the stool of canes to be severed, often amounting to a dozen largely developed subjects, some standing upright, others bent nearly or quite to the ground; then again, the unevenness of the surface, owing to eccentric modes of cultivation—not with method—such surface thickly strewn with fallen leaves and mulching.

A successful machine would be an epoch in the history of the great sugar belt of the West Indies, equal in importance to the introduction of mowing and reaping machines in the United States.

I am frequently urged by planters, who realize the necessity for greater improvements in machinery for cheaper manufacture of sugar, who deplore the fact of the lukewarmness of the English inventor to their pressing needs, to arouse the ambitious and practical American inventor to the great importance of the subject.

Inquiries relating to minor points necessary to a successful issue will receive my earliest attention.

In the history of sugar making in the West Indies there has not been such a reaching out for methods for cheapening the production and manufacture of sugar as there is at present. This is directly due to the low prices, and now is the time for manufacturers and dealers to take advantage.

CHESTER E. JACKSON,
Consul.

UNITED STATES CONSULATE,
Antigua, July 16, 1884.

HAYTI.

CAPE HAYTIEN.

REPORT BY CONSUL GOUTIER.

In reply to Department circular relating to agricultural machinery, of February 20, 1884, I beg leave to say that very little has been done towards the introduction of improved agricultural implements, as the people will continue in the old way as was practiced by their ancestors.

In this part of Hayti the plow is unknown; not one in ten thousand of the cultivators of the soil has ever seen one.

Their mode of preparing the ground is quite primitive, and it will require time before the progressive ideas of the nineteenth century, as regards implements of husbandry, will be adopted here.

Among the few of the tools of American manufacture which are highly valued may be mentioned the ax. It is superseding the clumsy, old-fashioned European instrument. The introduction of our hardware into this section of Hayti will be a matter of time, as we have no American houses or agents here to bring them to notice, and to show the people the uses, and advantages to be derived therefrom.

STANISLAS GOUTIER,
Consul.

UNITED STATES CONSULATE,
Cape Haytien, July 9, 1884.

CONTINENT OF ASIA.

ASIA MINOR.

TWO REPORTS BY CONSUL STEVENS, OF SMYRNA.

[First report.]

AREA.

In answer to your circular relating to agricultural machinery, &c., dated February 20, 1884, I have the honor to submit the following report:

The province of Smyrna, officially known as the vilayet of Aidin, occupies some 35,500 square miles of territory. It has a sea-coast line of 250 miles, and an average depth inland of about 100 miles. It is both a maritime and an agricultural province, and most eligibly situated commercially, its harbors being spacious and safe, its rivers draining and irrigating fertile valleys, and its two lines of railway connecting these rivers and valleys with iron bands and tapping the productive lands of the far interior. Its population, which has been considerably augmented recently by refugees from the despoiled European provinces of the Turkish Empire, is rising 1,000,000, or less than thirty to the square mile. About 90 per cent. of the rural population is Moslem. In Smyrna the Greek population outnumbers all others, the Turks forming less than one-third of its nearly 250,000 inhabitants. In all the large villages and cities of the province there is a considerable Greek population. The tillers of the soil, as a class, are sober and peaceful, and to some extent industrious.

HOW THE LAND IS DIVIDED.

The lands are divided into large farms (chiftliks), owned by the wealthy classes and into small peasant proprietorships. The large estates are usually worked, as in the southern countries of Europe, by the peasantry on the half-profit system, the proprietor giving the use of the land, also the seed, and paying half the expense of reaping if cereals, of harrowing and weeding if cotton, corn, beans, &c. In the more sparsely settled parts of the province a system of leasing the land prevails, but the peasants prefer the half profit system, as under it no capital is required, and the gleanings of the cereal crops, often 8 per cent., and usually gathered by their wives and children, belong to them exclusively.

SURFACE, SOIL, PRODUCTION, CLIMATE, ETC.

The land surface is divided into mountain, hill, plain, and valley. The soil is good on the hills and plains, whilst along the valleys of the Hermus, Meander, and Cayster, it is exceedingly productive. The

rivers flow through wide valleys skirted on either side by lofty mountain chains. The climate is mild in the valleys and pleasantly cool on the mountains. The plains and valleys produce corn, cotton, oats, poppy, hemp, sesame, tobacco, madder root, licorice root (wild), figs, grapes, olives, &c. In the highlands, in addition to corn and fruits, the staple product is valonia, of which not less than 1,000,000 quintals are exported annually. The mining industry, as conducted by western nations, is yet in its infancy, the chief article of export being emery stone, of which no less than 126,000 quintals are yearly sent to foreign markets.

MEASUREMENT AND VALUE OF LAND.

The land is measured by doonooms (about one-fourth of an acre), and its value in and around cities as compared with the interior districts is proportionally higher, probably, than in any other country. Want of personal security, the exactions of tithe officials, and the lack of any safe means of investment serve to create this condition of things. Thus the average price of arable land in thickly populated districts is $7.25 a doonoom, whilst in thinly populated interior districts it can be had for $1.25 or less.

MANNER OF TAXATION AND SALE OF RURAL LANDS.

The legal direct taxes upon the rural lands of every category are twofold: first, one-tenth of all produce grown, whether in the ground or on the trees; second, four per mille is levied annually on the estimated value of the land and farm buildings. Urban house property is taxed eight per mille per annum on its estimated value. Rural property in Turkey, it should be said, belongs in large measure to the crown. Its sales are made with these provisos: at every transfer a tax of five per cent. on the purchase money is levied by the Government, while the inheritance is limited to eight degrees of consanguinity: first, children of both sexes; second, grandchildren of both sexes; third, to father and mother; fourth, to brother and half-brother by the same father; fifth, to sisters and half-sisters by the same father; sixth, to brothers by the same mother; seventh, to sisters by the same mother; eighth, to the surviving husband and surviving wife. If no heirs comprised in these eight degrees of relationship exist, the land returns to the crown. But after the acquisition of any such crown lands, if the owner plants upon them a vineyard, vegetable garden, orchard, olive grove, or constructs buildings thereon, all such superficial property becomes freehold, and is inheritable by the most distant relations.

METHOD OF CULTIVATION.

Owing to the paucity of population, when compared with the extent of arable territory, and to the fact that except for gardens, cotton, and tobacco fields, fertilizing substances are not used, the land is allowed to remain fallow every third year. Thus a field which is sown with a summer crop, such as Indian corn, millet, sesame, beans, vetch, &c., is sown again the following autumn with wheat, barley, or horse beans, &c., these being the winter crops; the third year it is not planted.

The agricultural implements in general use are of the most primitive style and make. Oxen are used for plowing and thrashing purposes. The yoke is a long straight stick, usually fastened to the horns. The plow is simply a triangular block of hard wood, with an iron cap on the

point, one pole in front, to which the oxen are fastened, and one behind to guide it. The other implem nts are the harrow, rake, sickle, spade, pickax, shovel, pichfork, sieve, winnow, and clumsy low-wheeled bullock cart, all of which the least progressive of our American farmers would scorn to use. The plowing is about 4 inches deep, with a space between each furrow of 12 inches or more. Irrigation is confined to vegetable gardens, although there is seldom any rainfall from May to October. With such methods of cultivation, barley and wheat yield about twelve-fold, beans from twenty to twenty-five, millet and maize from twenty-five to thirty-five. The thrashing of cereals is performed by horses and bullocks; beans and sesame by flail or stick. The straw, after thrashing, is cut up and used as fodder for cattle. Of the smaller articles above enumerated, the pitchfork is of wood, a mere crotched stick; pickaxes, hoes, spades, scythes, &c., are made here partly of iron, and very clumsy; shovels, of galvanized iron, are imported from France. To induce the peasants to adopt more modern hand-tools is not so easy as the introduction of labor-saving machinery, but it may be done in time and by persevering effort through the large proprietors.

MARKET GARDENING.

As a rule the peasantry do not plant vegetables; hence gardening forms a separate industry in the rural districts as well as in the cities. That gardening is remunerative may be inferred from the statement of a prominent resident of Smyrna as follows:

> I know a gardener's family in this city consisting of man, wife and child. The man has a lease of 2 acres of garden and orchard. He pays $50 for rent and $11 in taxes, keeps two horses and two servants, and occasionally employs other help; lives decently and happily; all out of the products of his garden.

CONDITION OF THE PEASANTRY.

The wants of the peasantry are few. Bread, vegetables prepared with oil, milk, petmez (a sirup extracted from the black raisin), form their principal food. Meat and rice are only occasional luxuries with them. They live in tents or cabins and dress cheaply, although their cloth and linen are of foreign manufacture. The peasantry have a source of income in the breeding of cattle. Pasturage costs them nothing, and fodder is required for only a short season; the only tax they have to pay is for sheep, goats, and pigs; for the former 65 cents, and for the latter 43 cents per head annually.

ANSWERS TO VARIOUS POINTS.

In Smyrna and its vicinity advanced agricultural appliances prevail to some extent. American plows, churns, winnowing machines, cornshellers, &c., have been introduced within the last five years and have found favor with those intelligent enough to know how to use them. Thrashers, reapers, and plows are also imported from England and France, but they are old in style, poorly constructed, and do not give entire satisfaction, not being easily repaired when once out of order. American tools, implements, and machinery are much superior to those of any other country, and would, if properly introduced, be preferred. One merchant informs me that he is expecting a consignment of McCormick's American reapers, via Odessa, with a man competent to show the peasants how to run them. This is the right way. The manufactures of foreign countries are placed on the market here by agents

who are under the favor and patronage of their respective consulates. In some instances large land owners import their tools direct from England or France, while something is done in the same line by regular importers.

As indicated above, the best manner of introduction is to send hither wide-awake agents with samples, and give them time to demonstrate in a practical way the superiority of their wares. The next best plan is to secure some good agent, now a resident, instruct him as to the value and capability of the tools, machinery, &c., give him time to advertise them, and to show the farmers how to use them. It should be borne in mind that the people of this country are intensely conservative, wedded to old customs and systems, slow to learn, not over-ambitious, being content to do as their fathers did. But necessity, arising from competition, will force them to adopt new methods.

In making purchases the time system is well nigh universal, and this in turn is governed by the harvest.

From the time of landing until in the farmer's possession, foreign manufactured tools are kept in stores and warehouses. They are imported from America by steam either via Liverpool or Palermo; from other countries by steam direct, giving those countries no inconsiderable advantage in the matter of freights, handling, porterage, &c.

As to the taste of the farmers in regard to machinery, tools, &c., it may be said that while they are not greatly impressed with neatness and style, they require lightness with strength and durability. The horses here are small, ponies in fact, and two of them would not match in strength one of our American draft horses. Hence the necessity for light weight in all machinery driven or drawn by horse power.

It would be advisable, and in every way advantageous, to have the names of manufacturers and their places of manufacture, together with labels, illustrated catalogues, &c., printed in the Greek and Turkish languages. The large proprietors read either one or both; the peasants do not read at all.

English manufacturers have made special efforts through their facilities for direct communication by steam, and the two lines of railway connecting Smyrna with the interior, constructed by British capitalists, to introduce English machinery, tools, implements, &c., into this province, but with only partial success; first, because of the stubborn adherence of the agriculturists to old methods of cultivation; and second, because the articles were not of a durable character, and when once out of gear could not be repaired and again made serviceable.

There are no customs charges on importations of agricultural or labor-saving machinery of any kind, and no others except quay dues, porterage, and "backsheesh" to the customs underlings. All countries are served alike, special privileges being enjoyed by none.

The following are the names of the men and firms who import agricultural machinery and implements:

David Offley, importer and dealer in agricultural machinery in general, exclusively manufactured in the United States—established in 1879. He sells mostly on consignment.

Joseph Castellan, importer and dealer in American and English manufactured machinery, hardware, &c. Has been in this trade for the last thirty years.

David D. A. Gout, importer of English plows, reapers, and thrashers, manufactured and sold by Bowling & Lowe, London, England.

MacAndrews & Forbes (mostly for their own use), English plows and reapers from Rawson, Head & Jeffreys, London, England.

Consinery & Fils (also for their own use), French plows, reapers, and thrashers.

In conclusion, let me say that American manufacturers of farm machinery, steam, horse, and hand power, and of farm implements and tools of superior make, could compete with the most favored nations in this market if they were (1) supplied with direct steam communication; if they were (2) to establish agencies here, advertise judiciously, and demonstrate in a practical way the utility of their wares; if they were (3) to send out only good, yet cheap articles; and if they were (4) content with small profits and slow returns at first. England has a large share of the trade of Asia Minor, simply because her merchants have adjusted their business to the requirements of this country alike in the quality and price of their goods and the time and manner of payment. The inference from this is obvious. Our American manufacturers should make a note of it.

W. E. STEVENS,
Consul.

UNITED STATES CONSULATE,
Smyrna, May 9, 1884.

[Second report.]

INTRODUCTION OF AMERICAN MACHINERY INTO ASIA MINOR.

Knowing the keen interest which the Department feels in all efforts to extend American manufactures in foreign markets, I have the honor to report that marked progress has been made within the past few months toward the introduction of American machinery, especially farm labor-saving machinery, into the markets and agricultural districts of this part of Asia Minor.

Hitherto the drawback to the introduction of such machinery has been the unwillingness of farmers and land-owners to depart from the primitive methods of tilling the soil, an unwillingness strengthened by the failure of previous efforts to employ successfully foreign manufactured implements of husbandry. These were either too heavy, too complex, or too easily put out of repair, or the farmers did not know how to operate them. I know of one large chiftlick (plantation) where are now rotting from disuse English-built thrashers, while the proprietor has returned to the method of thrashing grain employed by the ancient Egyptians. But, through the energetic efforts of Mr. David Offley, assisted by Mr. Paul J. Balladen, merchants of this city, American machinery has been introduced into the agricultural districts under circumstances that promise the best results.

The progress made is set forth in the accompanying copy of a letter written at my request by Mr. David Offley. As the original contains allusions too complimentary to myself, I send a copy exact in all other particulars.

I may add that Mr. Offley, with others, has recently imported an improved American drilling machine and set it up at Bournabat, a village 7 miles distant from Smyrna, and where many of its merchants reside. They have already bored through rock to a depth of 150 feet, and propose to reach a depth of 600 feet, in the expectation of securing a flowing well of water. Many of the suburban villages suffer from lack of water, and if this machine succeeds in doing that which the ordinary

drills have failed to do, viz, reach a sufficient water supply, it will prove a godsend.

Mr. Offley informs me that while traveling in the interior with the McCormick reaper he also introduced American pumps, of which he is agent, and found a demand for them which he hopes to increase largely during the coming year.

W. E. STEVENS,
Consul.

UNITED STATES CONSULATE,
Smyrna, July 28, 1884.

INTRODUCING AMERICAN MACHINERY INTO ASIA MINOR.

Mr. David Offley to Consul Stevens.

SMYRNA, *July* 26, 1884.

SIR: Last spring I ordered a shipment of American "Daisy" reapers from the McCormick Harvesting Machine Company, Chicago, Ill.; they reached here in May last. I was the first to import them to this country. Some reapers of English make had been imported by one or two commission firms of this place, but these proved of no use whatever, as they were too complicated for our ignorant farmers and much too heavy for our horses. This, of course, caused our farmers to have a bad impression of farm machinery.

My first trial with the reapers was made at Ouloudjak, near Smyrna. Many people followed me to the place of trial, all with the impression, as they had seen English machines tried, that these would not have a better fate. Arrived at the spot, I gave the charge of one of the Daisy reapers to my brother, Mr. John H. Offley (who carefully studied, previous to this, the directions furnished me by Messrs. McCormick for running the reaper). After carefully examining, that everything should be right and in order, he started the reaper. The machine was drawn by two horses brought down from my farm accustomed to draw American plows and carts. It did the work very well, to the general satisfaction of all farmers, although the field had not been properly harrowed. I explained to them that they must harrow well their fields if they desire to have the reaper work still better. They promised to do so for next year. The reaping was continued for about two hours, when we left for town, amid the cheers of the crowd. The reaper performed the work rapidly and with the greatest ease, at the rate of about an acre an hour. Many of the farmers were even of opinion that *one* horse would be quite sufficient to draw it (here horses are of pony size). The machine missed not one single stalk. It reaped the stalks as well at 4 to 6 inches from the ear of the grain as at 4 to 6 inches from the root.

The day following I sent the machines, with my brother, into the interior, who is now going from farm to farm so as to introduce the machines. I have already sold, through him, four reapers, and have prepared a sale for many more the coming season.

My brother proceeded north as far as Alasheir (ancient Philadelphia), the terminus of the Smyrna and Cassaba Railway, 105 miles from Smyrna. After this he returned to Smyrna, and thence proceeded as far as Sarakeny, the terminus of the Aidin Railway, about same distance (south). He is now working and exhibiting the reapers at about fifty-eight hours distant from this last terminus, having had full success, and attracted the admiration of the farmers from the places on his way.

A few days ago, having had a call for the reapers from Oushak, in the interior (north), a great grain-growing district of Asia Minor, twenty-four hours on horseback from the Alasheir Railway station, I took three reapers, my mechanic, horses, and went up myself. I met with good success. Farmers were highly pleased, and seemed well impressed with our reapers, especially as they had been accustomed to hear that such machines could not do the work satisfactorily in their country, which is greatly in need of such machines, being altogether an agricultural country: and I am sure that with a good introduction these machines will meet, after a year or two, with fair sales. The same applies as well to thrashers, if not more forcibly. Of these I have ordered two for one of my customers. They are the make of Messrs. Aultman & Taylor, Mansfield, Ohio, who have been kind enough to accompany said machines by an expert, Mr. Harry Roop. They have only just reached me.

Whenever I have been in the interior of this country I have received fair treatment. I was indeed highly pleased with the kind way I was received by the poor uneducated farmers. They tried all they could to make my trip agreeable. I am sorry, however,

to have to say the contrary for the custom-house in Smyrna. Here I have been put to much inconvenience. According to the Turkish law all agricultural implements are free of duty; still I was compelled to pay duty in order to withdraw my goods. Of course this I paid under protest through my consulate. I am sorry to say that if this state of things continues it will be utterly impossible to continue the introduction of agricultural machines; this both to the detriment of our manufacturers in the United States and the poor farmers of this country.

DAVID OFFLEY.

W. E. STEVENS, Esq.,
United States Consul, Smyrna.

INDIA.

AMERICAN PLOWS AND FANNING MILLS FOR INDIA.

REPORT BY CONSUL-GENERAL MATTSON, OF CALCUTTA.

[Republished from Consular Report No. 31.]

With a view to the exhibition to be opened here next December, I have the honor to present the following facts and suggestions in the hope that some American manufacturers may take action in the matter and avail themselves of the excellent opportunity which that exhibition will undoubtedly afford.

The Indian "ryots" (agriculturists) cultivate 200,000,000 acres of land and plow the same from two to five times every year, with no better implement than an iron-pointed wooden stick, which does not turn over the soil, but only stirs and shakes it to the depth of 3 or 4 inches.

The enormous quantity of small grain annually produced on these 200,000,000 acres is cleaned and separated for food and for the market by the same system of hand winnowing which was in use among the Israelites of old, and which, for the European grain trade at least, is now deemed inefficient.

The Indian agriculturist—ryot—can in no sense be compared to the American farmer, but rather to the late serf of Russia. He is a tenant on hard conditions, and is, by custom and bigotry, almost a fixture on the partcular spot of land where he was born; his farming is done on a very small scale and according to old methods, to which he clings with religious veneration; his wants are very few, and he endures poverty and even hunger with patience; he cultivates his patch of 5 to 15 acres on shares for the landed proprietor—zemindar—who holds under rental to the Government, and the better half of his gross income generally goes to the zemindar, the priest (Brahmin), and the usurer, in the form of rent, presents, offerings, and interest, and if he can net 10 cents a day by his hard and hopeless labor, that will suffice for the most pressing wants of his household. His home is a mud or bamboo hut; his property a pair of small bullocks, a few cows, calves, and goats, a wooden cart, and a few brass and earthen pots—in all worth about $50; and his implements and tools are of the rudest kind, such as his ancestors used a thousand years ago; and yet he is making some progress under British rule, and finds his wants increasing and at the same time better outlets for his produce and more recompense for his labor, and, on the whole, is so independent on 10 cents a day that he will eat or store his wheat rather than sell it below a certain price. Of course, he does not employ machinery in farming, but plows his land with a crooked piece of iron-pointed wood, harrows it with an implement

resembling a common ladder laid flat on the ground and dragged by the little bullocks crossways over the field; he sows by hand, reaps with a rude sickle, carries the sheaves home on his back or in the bullock cart, threshes them with a wooden club, or lets the cattle tramp out the grain, and cleans it by hand-winnowing.

Then, again, the cutting up of the land into small patches, to suit the rapidly-increasing population and for irrigation purposes, the absence of roads and bridges, the want of strength in draught animals, the poverty of the people, and other reasons, make it impossible to farm on a larger scale and to use machinery; but even if all these objections were removed, the present cost of labor is too low even for the successful competition of farm machinery; and it may be regarded as certain that the cost of wheat, as now produced, is at or near the very lowest possible minimum, and when it does not bring 50 to 60 cents a bushel to the ryot it will be consumed at home in lieu of other breadstuffs, and the wheat area will be temporarily diminished.

While, for reasons stated in my former reports, agricultural implements, such as are manufactured in the United States, are not adapted to India, there is an important exception in respect to the plow and fanning mill.

THE PLOW.

The small American garden plow which turns a furrow of 8 or 9 inches, and is so light that a ten-year old boy can carry it on his shoulder, and a good-sized pony can work it in the field, is, in my judgment, the very plow to introduce into India, where an immense market awaits the successful manufacturer. It would, however, have to be made somewhat different from the home model; the beam should be very light and long (much like a common-wagon tongue), with a slight incline upwards, so that the end could be fastened with a clevis to the yoke of a pair of bullocks of the size of common two-year-old American country steers (the cattle here are yoked so far apart that there is room close to their hind feet for the working of the plow); the handle or handles should stand nearly upright in order that the plowman may walk so near his cattle that he can readily catch hold of their tails, because the Indian bullock-driver will insist on regulating the motion of his cattle by jerking and twisting their tails near the root with his hands. In all other respects it should be just like our light garden plow with a high polish, so as to scour easy in the wet, heavy soil, but otherwise the finish might be plain and cheap, so that the plow would come within the means of the poor tenantry who compose the agriculturists of India.

THE FANNING MILL.

This should be made with special reference to cleaning and separating wheat for the European market, and should be small, light, and cheap. It is very seldom that one ryot has more than 50 or 60 bushels of wheat to clean, and time is of no special object to him; the mill therefore need not be made to do much work in a day, but rather to do it well. A little village community would probably become joint owners of one such mill, but there are 450,000 agricultural villages in India, and in many instances the "zemindar" (land proprietor) would buy it and let it out on hire to his tenants.

Many attempts have been made to introduce these implements from Europe, but so far the samples have proved too heavy and expensive. There is a universally acknowledged want for both of them, and arrangements can easily be made for their trial at the Government experimental farms.

H. MATTSON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Calcutta, February 20, 1883.

CEYLON.

REPORT BY CONSUL MOREY.

Manufactures are so inconsiderable and have been so thoroughly described in my former reports that there is nothing new to say here upon the subject. I received the circular dispatch dated February 20 from the Department, asking for information that would be useful to American manufacturers desiring to send farming implements and machinery here; but, knowing that the country was oversupplied with goods of that description already, I considered it would not be prudent, under such conditions and in the present state of the money market, for our exporters to court loss and disappointment by sending their wares here for sale.

The present "director of public instruction" has, to be sure, lately made strenuous efforts to introduce English plows, and claims to have had considerable success.

It is, I opine, however, purely an idea of his own, which will probably die a natural death in the course of another year, when whatever of those useful implements he may have succeeded in inducing the natives to buy will be thrown aside and treated as so much old iron. The same thing has been tried before, to my knowledge, with as much vigor and vim as at present, and though promising well for a time, resulted finally in disappointment.

W. MOREY,
Consul.

UNITED STATES CONSULATE,
Colombo, September 30, 1884.

JAPAN.

REPORT BY CONSUL PATTON, OF OSAKA AND HIOGO.

JAPANESE AGRICULTURAL IMPLEMENTS.

In connection with the Department's recent circular upon the subject of agricultural machinery, I have the honor to submit herewith a series of thirty-nine drawings illustrative of Japanese farm implements and processes.

For convenience I have arranged these drawings, as far as possible, in the order in which the various instruments would come into prominent use during the farming season.

For breaking the ground, the tools principally used are spades (Figs. 1, 2, 3, 4), mattocks (Figs. 5, 6, 7, 8, 9), and plows (Figs. 10, 11, 12, 13,

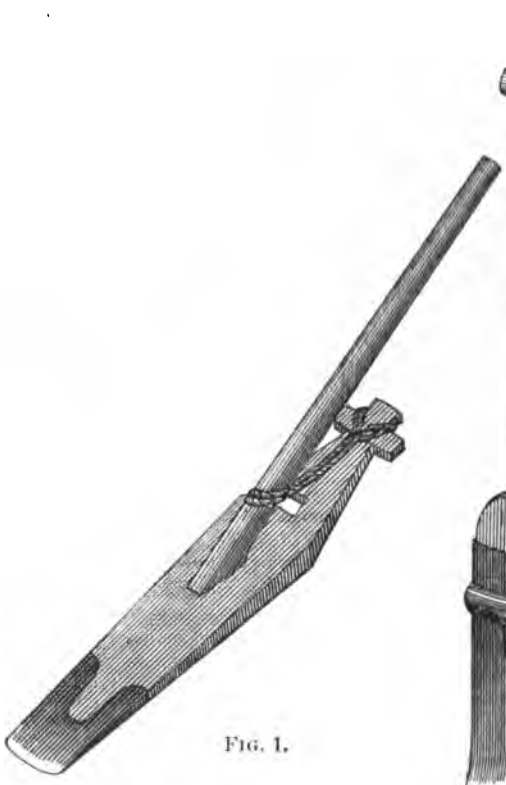


FIG. 1.

FIG. 2.

FIG. 3.

JAPANESE SPADES.

FIG. 4.

JAPANESE SPADE.

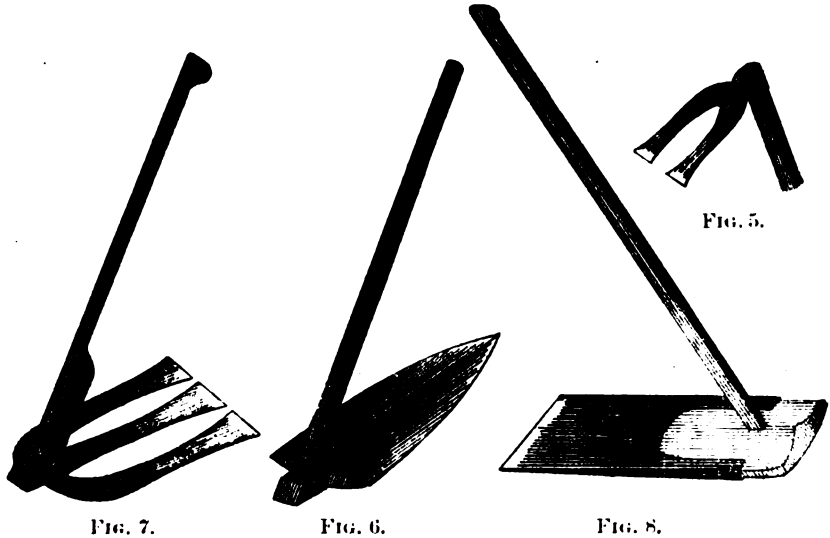


FIG. 5.

FIG. 7. FIG. 6. FIG. 8.

JAPANESE MATTOCKS.

14). Of these, the mattock (Figs. 8, 9, called "kuwa") is the one most generally used, serving the purposes of spade, shovel, hoe, and cultivator. The dark-colored portions are made of wrought iron edged with steel. These parts are fastened to the wooden stock and handle by wooden pegs. This tool costs about $1. The plows (Figs. 10, 11, 12,

FIG. 9.

JAPANESE MATTOCKS.

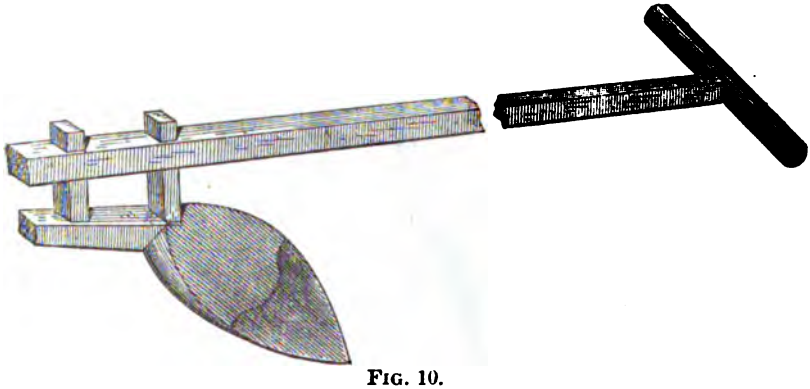


FIG. 10.

JAPANESE PLOW.

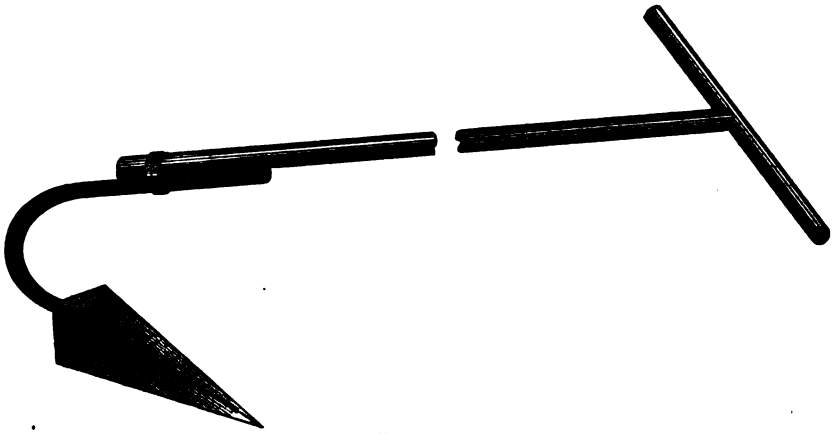


FIG. 11.

FIG. 12.

JAPANESE PLOWS.

13, 14) are not so frequently employed as the mattock, owing, no doubt, to the small areas of the fields cultivated. They are constructed of hard wood, except the dark-colored parts, which are of wrought iron with tempered edges. Their cost ranges from 80 cents to $2 each.

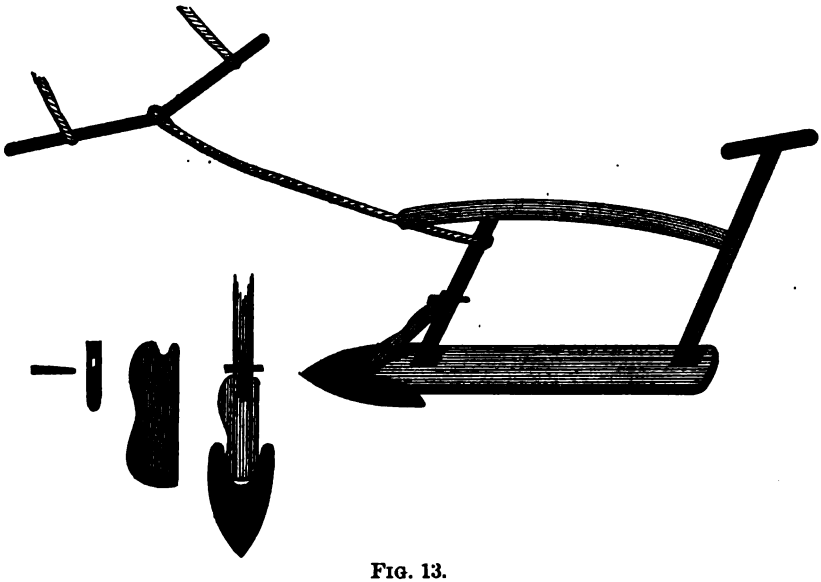


FIG. 13.

FIG. 14.

JAPANESE PLOWS.

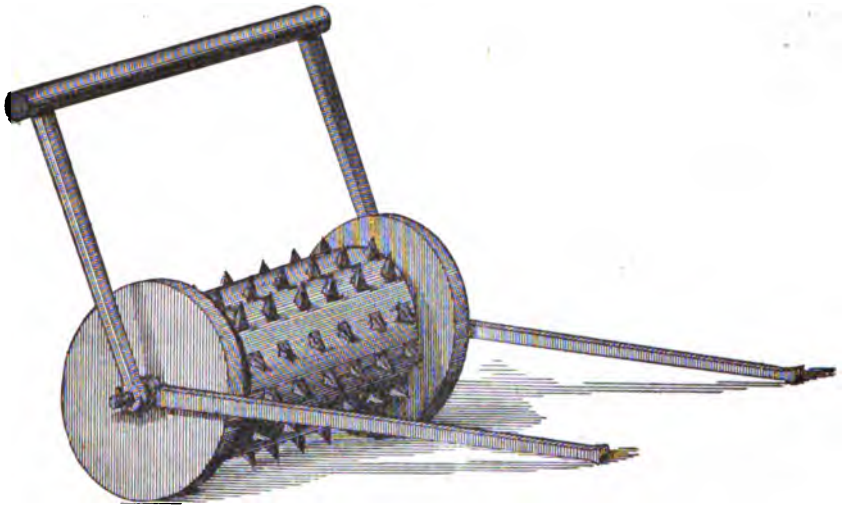


FIG. 15.

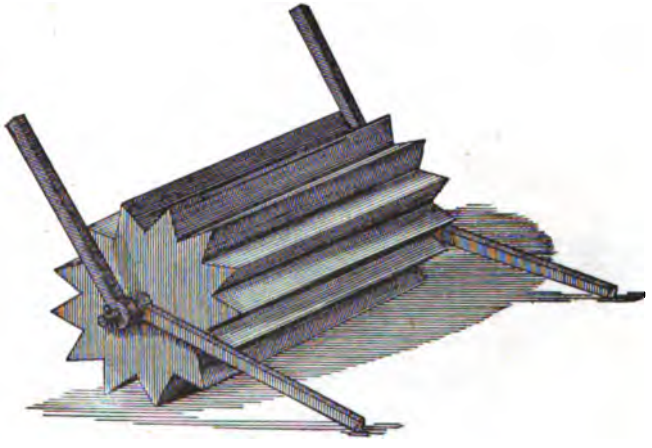


FIG. 16.

Pulverizers and rollers are depicted in Figs. 15, 16, 17, 18. They are made entirely of wood except in a case like Fig. 18, where the wheels and teeth are of wrought iron or steel.

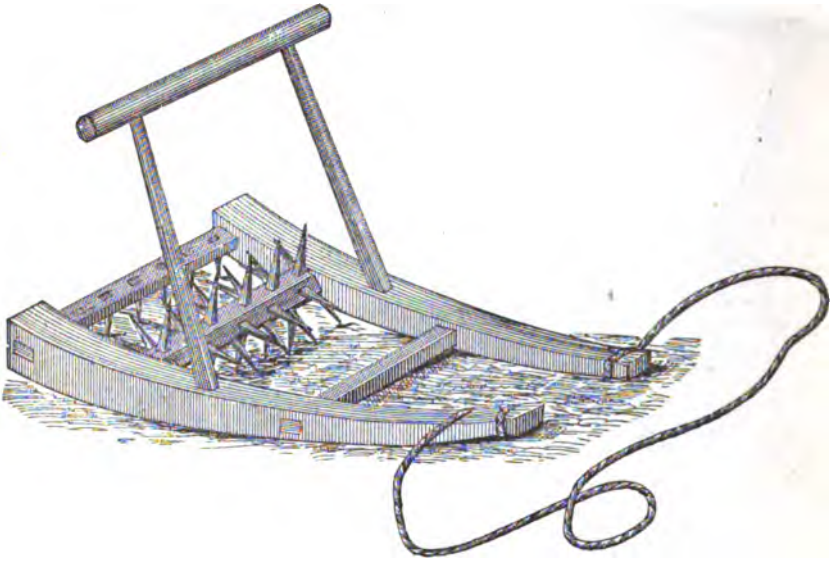


FIG. 17.

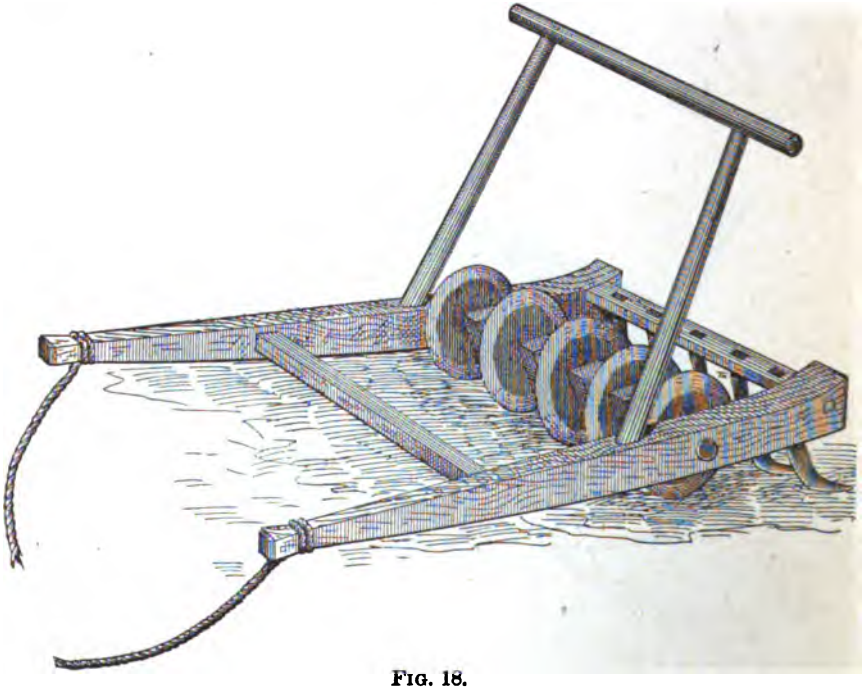


FIG. 18.

PULVERIZERS AND ROLLERS.

Small hoes and dibbles (Figs. 20, 21) are in general use by market gardeners. Rakes (Fig. 19) are almost exclusively made of wood.

A species of scoop called "joren" (Figs. 22, 23) is universally in use throughout Japan, performing the same office here that the shovel does

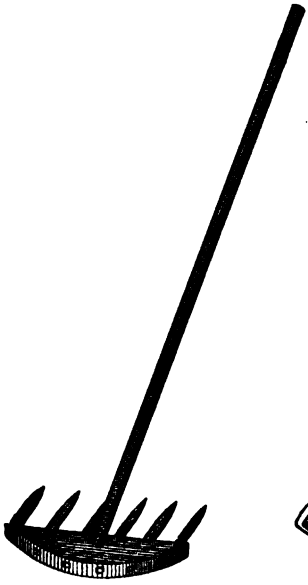


FIG. 19.
RAKE.

FIG. 20.
HOE.

FIG. 21.
DIBBLE.

FIG. 22.

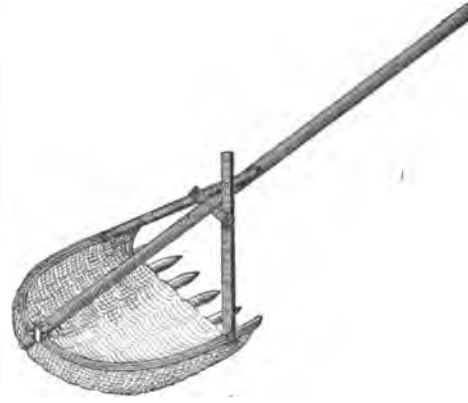


FIG. 23.

JORENS.

in occidental countries. The handle and basket work are of bamboo. The most usual form of this tool is shown in Fig. 22, where the basket work is edged with wrought iron. The cost of a "joren" is about 75 cents.

Grain planting is done entirely by hand and in drills. The manner

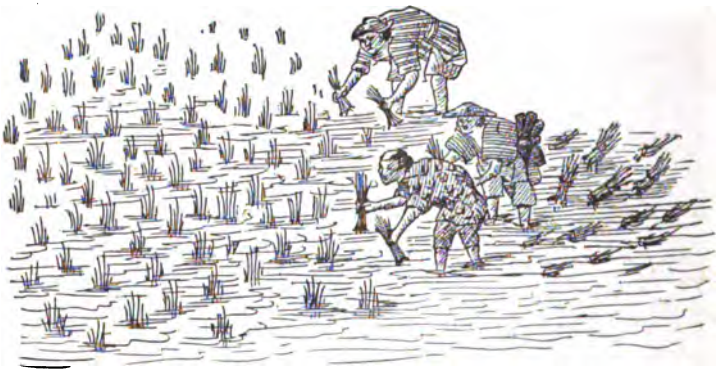


FIG. 24.

SETTING OUT RICE.

FIG. 25.

APPLYING INSECTICIDES.

of setting out rice plants, after their removal from the seed beds is shown in Fig. 24.

Cultivators are not used in low-land rice fields. Their office is filled by the farmer's naked fingers, with which he stirs the mud and water

about the roots of the plants. In the case of other crops, hoes, mattocks, and small hand-plows are used (Figs. 5, 6, 7, 8, 9, 10, 11, 12).

Insecticide is applied to growing crops by means of a syringe, as shown in Fig. 25.

Irrigation is accomplished, where the water has to be raised to high levels, as shown in Figs. 26, 27, 29. The tread-wheel (Fig. 27) is a very common sight in rice fields. Being made of light wooden material it is cheap and portable. In some districts wells have to be depended

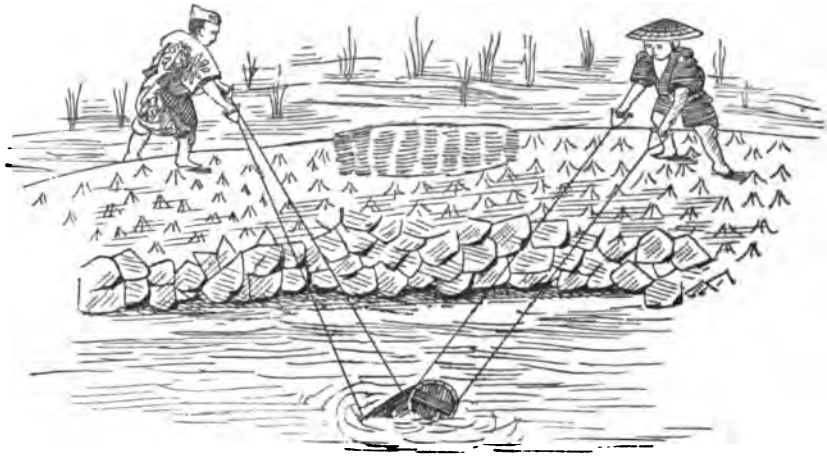


FIG. 26.

IRRIGATION IN JAPAN.

FIG. 27.

IRRIGATION IN JAPAN—THE TREAD-WHEEL.

upon, in which case water is distributed by means of buckets with perforated bottoms. (Fig. 29.) Pumps are seldom met with.

Liquid manure is almost exclusively used, and is applied to the growing crops by means of a wooden ladle, as shown in Fig. 28.

Of harvesting machines, properly speaking, there are none in use in Japan outside of the Government's experimental farms; and, owing to the small areas of the fields cultivated (average size, one-half to three-quarters of an acre), there can be no demand for them. Harvesting is done by hand, as will be seen in Figs. 30, 31, which show the use of the shears ("hasami") and the sickle ("kama").

FIG. 28.

APPLYING LIQUID MANURE.

FIG. 29.

IRRIGATION IN JAPAN—PERFORATED BUCKETS.

Thrashing machines consist of the flail ("karasao") and the hatchel ("mogi-kogi"), for which see Figs. 32, 33, and 34. The teeth of the hatchel are made of iron or hard wood.

FIG. 30.

HARVESTING IN JAPAN—THE SHEARS (HASAMI).

FIG. 31.

HARVESTING IN JAPAN—THE SICKLE (KAMA).

Winnowing is generally accomplished by sifting (Fig. 35) and by pouring the grain and chaff from a scoop-shaped basket held aloft, the wind (either natural or produced by an assistant waving two mats or a large fan) carrying off the chaff. (Fig. 36.)

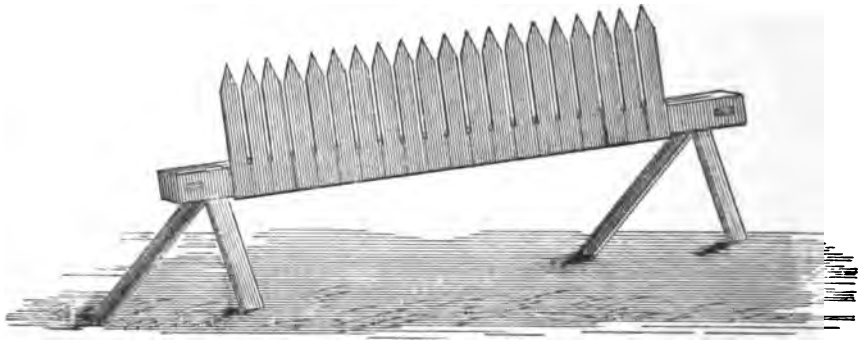


FIG. 32.

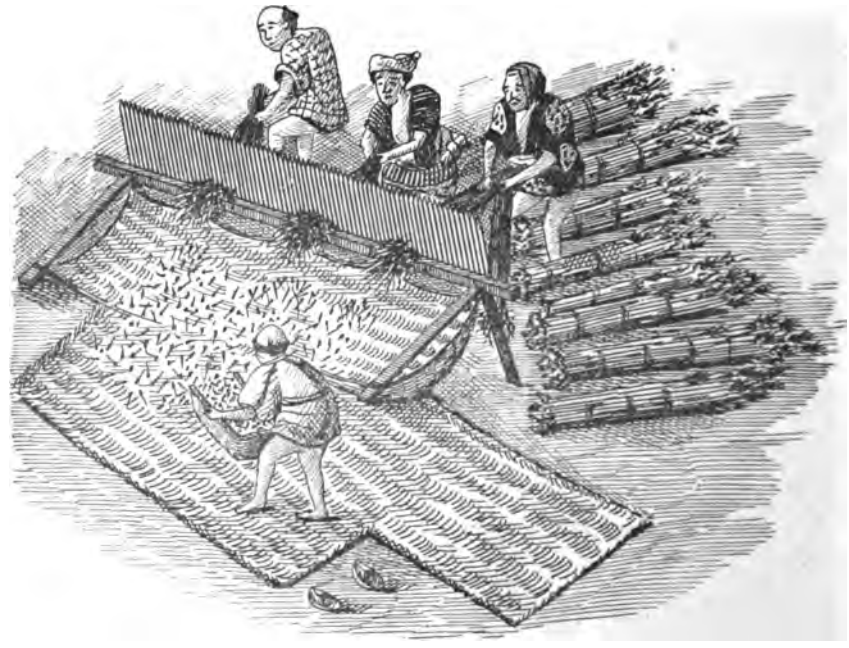


FIG. 33.

THRASHING IN JAPAN—HATCHELS (MOGI-KOGI).

Figure 37 shows one very common method of grinding grain in localities devoid of water-power mills.

Hulling grain is performed as illustrated in Figs. 38, 39, the appa-

FIG. 34.

HARVESTING IN JAPAN—THE FLAIL (KARASAO).

FIG. 35.

WINNOWING IN JAPAN.

ratus used consisting of a heavy wooden mallet and mortar. This mode is the invariable one followed in the treatment of rice and other grain

FIG. 36.

WINNOWING IN JAPAN.

FIG. 37.

GRINDING GRAIN IN JAPAN.

having tenacious hulls, excepting in districts where water-power will enable the use of rude mills. Steam-mills for this process have been introduced to a very limited extent.

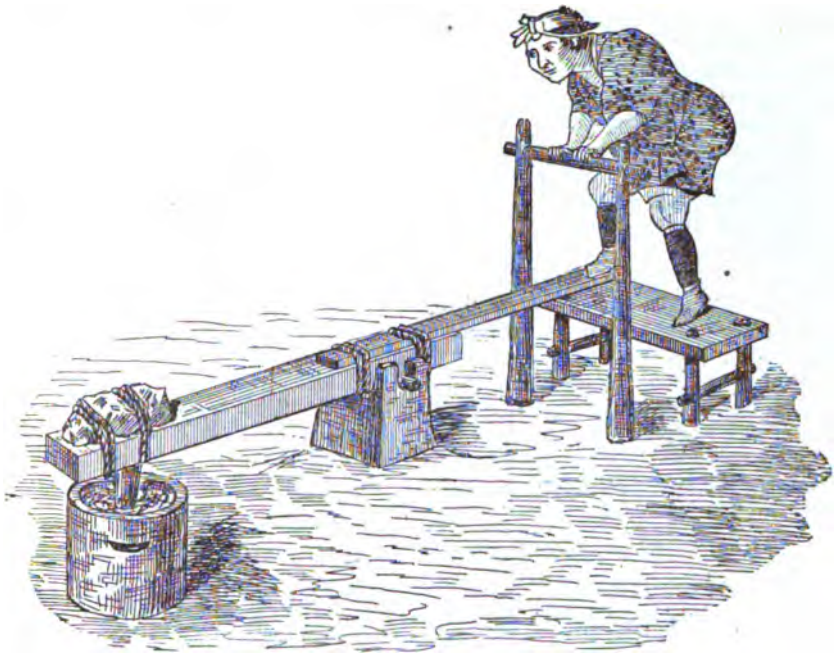


FIG. 38.

FIG. 39.

HULLING GRAIN IN JAPAN.

FOREIGN IMPLEMENTS IN JAPAN.

The almost exclusive use of hand labor in farming operations in Japan, and the comparatively nominal cost of the rude native implements that fully meet the farmer's requirements, seem to preclude the introduction of American machinery. The latter is used here only on the Government experimental farms, and I am advised by an American merchant that he has tried to sell in Japan nearly every description of our implements, but without success, and that he has now a large stock of them in his warehouse here, which has been on his hands for upwards of fifteen years. Our machines and tools are too expensive and are not adapted to either the tastes of the people or to the gardening operations in Liliputian fields, which are here dignified by the term "farming." Besides, farm labor is so cheap that it is at present practically impossible to underbid it with labor-saving machinery. Male field-hands work twelve hours per day, have five holidays in each month, and receive their food, lodging, and wages, ranging from 10 to 15 yen per annum ($8.60 to $12.90). Female laborers work the same hours, are not entitled to holidays, and receive, besides their food and lodging, about 7 yen ($6) per annum.

IMPORTERS OF AGRICULTURAL MACHINERY.

The American Trading Company, the China and Japan Trading Company, Messrs. Walsh, Hall and Company, and Messrs. J. D. Carroll and Company are American firms at this port (Kobe) doing extensive import business, who will, I believe, cheerfully furnish manufacturers with fuller details concerning this market.

T. McF. PATTON,
Consul.

UNITED STATES CONSULATE,
Osaka and Hiogo, September 5, 1884.

CHINA.

HANKOW.

REPORT BY CONSUL SHEPARD, OF HANKOW.

In reply to circular of February 20, relating to agricultural machinery, I am obliged to say that in this consular jurisdiction no foreign tools, labor-saving appliances, or like products are introduced or used in any form by the native population. The division of the soil into very small lots, mainly cultivated by single persons, as a rule, would prevent the introduction of large implements, although the vast extent of level country in the river bottom would furnish unlimited areas for successful use.

The methods of agriculture pursued and the tools used are of the rudest and most primitive form. Even an apology for a shovel is seldom to be met with, while the hoe is of a long, narrow, heavy blade, and is used for almost all purposes. It takes the place of a shovel when soil is to be moved, as it is carried in shallow baskets depending from a yoke on the cooly's shoulders, and the hoe is used to scrape the earth into the baskets. After plowing, and often without it, the earth is dug up and prepared for the seed by the hoe, and the growing plants are cultivated by its aid. The plow is a rough and clumsy affair, with

only one "stilt," and only the point shod with iron. It loosens the soil, but turns a very slight furrow, from its narrowness. The harrow is more like the well-known form at home, and the rake, when used at all, is formed of curved and split bamboo, but is frail and of little value. Farm carts or wagons are infrequent, very clumsy, solid wooden wheels, and rudely fashioned. Thrashing is performed as in the times of Moses, by spreading the sheaves on an earthen thrashing-floor and driving unmuzzled cattle over the grain to tread it out. Winnowing is done on the same floor by pouring the grain from uplifted baskets for the wind to drive away the chaff, with sometimes a huge fan wielded by an assistant coolie. Sometimes the grain is ground between millstones, the under one stationary and the upper turned by a bullock that travels in a circle. Sometimes two women grind at a mill as in the time of Herod of Galilee. Quite often a still ruder process is observed. A stone coping is firmly set in a continuous circle about a space of ground 15 or 20 feet in diameter. The coping has an unbroken groove cut in its upper surface V-shaped, and a circular stone, 3 feet in diameter, has its periphery hewn to fit in the groove, which is 5 inches or more in depth. Into this groove the grain is placed and the stone wheel revolves over it, its center fixed to a pivot on the outer extremity of a beam, whose inner end is attached to a pivot in the center of the inclosed space. A bullock hitched to the beam revolves the grinding stone, and in time the grain is crushed to powder. Nearly all burdens are borne on men's shoulders, and thus crops are gathered and transferred. Labor is so cheap and cultivation so subdivided that often every plant has a special culture, and daily irrigation with liquid manure is applied, especially with all food vegetables.

From these illustrations of the methods of agriculture and its kindred labors it will be seen that there is much room for improved machinery and better implements, but a most wondrous change must take place in the constitution of Chinese social life before it will demand any improvement. Prejudices have here the force of natural laws, and customs seem almost impossible to be changed or modified. The people are scarcely more than animated machines, and are content to move in the routine that ages have sanctioned. A most thorough upheaval of ideas, a radical revolution, must create unknown necessities before there can be any adoption of tools that imply progress. I have purchased different garden tools for the very purpose of introducing them to the notice of laborers; but in spite of their lightness and ease of use they are invariably thrown aside when not under observation, and recourse had to the old hoe and "grass-cutter," which is a straight knife attached at right angles to a bamboo as straight, and eight feet long, which is the Chinese scythe. At different times I have put illustrated catalogues of American iron and steel manufactures of agricultural machinery, hydraulics, &c., into the hands of mandarins, explaining their use, but only to excite admiration at the pictures. Arguments for their adoption fall as dead words on unappreciative ears.

In the foreign community all sorts of foreign tools are used, and we have here a Henneman (Boston) fire-engine. By degrees native laborers become familiar with them, and may in time adopt them. But it will be long before this central part of China will become a market for any American agricultural tools, doubtless the best in the world, unless, indeed, the Empire becomes suddenly revolutionized.

ISAAC F. SHEPARD,
Consul.

UNITED STATES CONSULATE,
Hankow, July 29, 1884.

SHANGHAI.

REPORT BY VICE-CONSUL-GENERAL CHESHIRE.

As a response to the Department circular of date the 20th of February last, relating to agricultural machinery, I have the honor to submit a few general observations.

As an eminent writer has stated, the Chinese are rather gardeners than farmers, not only in the small size of their grounds, but in their ignorance of those operations whereby soils naturally unfruitful are made fertile; those which produce a small variety of plants made to bring forth a greater variety.

The Chinese system of agriculture is of the most primitive nature. The agricultural utensils used by this people are few and simple, and are probably now made similar to those used centuries ago. They make up, however, for the disadvantages of poor implements by hard work, repeatedly turning over the soil and sustaining its productiveness by constant manuring. Labor is cheap and in great abundance, and the Chinese farmer appears to be perfectly contented and satisfied with the primitive style of his agricultural implements, which consist of the following:

The broad hoe, a less efficient tool than the American spade, is used more than any other; the edge of the large wooden blade is guarded with iron, and the weight adds impetus to the blow.

Spades, shovels, and mattocks are employed in kitchen gardening and the plow and harrow in the cultivation of cereals. The plow is made of wood, except the iron-edged share, which lies so flat that it cannot penetrate the soil more than 5 inches. The whole implement is so simple and rude that one would think the inventor of it was a laborer who, tired of the toil of spading, called the ox, mule, ass, or horse to his aid and tied his shovel to a rail; fastening the animal at one end and guiding the other, he was so pleased with the relief that he never thought of improving it. The harrow is a heavy stick armed with a single row of stout wooden teeth, and furnished with a frame-work to guide it, or a triangular machine, with row of teeth, on which the driver rides.

So long as the Chinese adhere to the present primitive mode of agriculture—and I am of the opinion they will continue to do so in view of the enormous laboring population in this country, and the cheapness of labor—there is very little encouragement of her offering a market to our manufactures of agricultural implements.

The Chinese farmers, unlike the majority of the better class, are very conservative, and are firm adherents to what is commonly termed by the Chinese "olo custem."

With the exception of a limited supply of lawn-mowers and garden utensils, such as spades, shovels, rakes, and hoes, which are entirely used by foreign residents, and a horse hay-cutter or mower, recently imported by an American firm, I know of no other kinds of agricultural implements imported from America or other foreign countries and used within this consular district.

F. D. CHESHIRE,
Vice-Consul-General in charge.

UNITED STATES CONSULATE-GENERAL,
Shanghai, June 14, 1884.

AMOY.

REPORT BY CONSUL GOLDSBOROUGH.

I have the honor to acknowledge Department circular of February 20, 1884, and in reply I beg, respectfully, to submit the following:

TERRITORY AND SOIL.

The extent of territory embraced in reports and its division into farms, whether large or small? It is impossible to answer.

The nature of the soil here is so far from fertility that it gives very small products—beans, sweet potatoes, melons, and vegetables, together with a very limited supply of rice and millet.

MODE OF CULTIVATION.

The agricultural condition is very bad, owing to the old usages of hand-plowing by the poor, and cow-plowing by the better classes.

AGRICULTURAL IMPLEMENTS IN USE.

The agricultural tools here consist of hand-made plows pulled by cows.

No foreign tools, implements, or machinery have been introduced for improving the agricultural condition here, nor do the planters have any desire therefor.

Neither American manufactures (agricultural) nor those of other countries have been used here.

HOW TO INTRODUCE AMERICAN IMPLEMENTS.

It would be very hard work to introduce foreign implements or to induce the native to use them.

To say more would be totally misleading, and consequently productive of mischief rather than profit.

W. E. GOLDSBOROUGH,
Consul.

UNITED STATES CONSULATE,
Amoy, June 5, 1884.

JAVA.

REPORT BY CONSUL HATFIELD, OF BATAVIA.

I have the honor to acknowledge the receipt of circular relating to agricultural machinery, dated February 20 last.

As far as Java is concerned, it seems to me that a splendid result awaits the one who can introduce our modern and improved agricultural machinery and tools.

AREA AND POPULATION.

Java and Madura, always taken together, cover an area of 2,380.7 square geographical miles, according to the Government's blue-book for 1884, and support a population of 20,268,480 souls, or 8,468 per square geographical mile.

Notwithstanding these figures, there is a large territory still unopened and uncultivated.

AGRICULTURAL IMPLEMENTS IN USE.

The soil is productive to a degree, the crudest and most primitive implements serving the native. The plow is a crooked or bent stick, drawn by buffaloes, and merely scrapes or scratches the top of the earth; the spade is never used, unless here and there on an estate under European management, and the hoe, an instrument in universal use, is a great, unwieldy, heavy, and "impossible" thing, at least twice the weight of our own.

The primitiveness in implements for use in cultivating land, and tools usually employed by husbandmen, is universal; a simple hatchet, for instance, is rarely seen in the hands of a native; an ax is also a *rara avis*, though both these tools are procurable.

It will be understood, of course, that the mode of cultivation amongst the natives is as simple as their implements; the soil is so rich and nature so bountiful in this favored island that it takes but little labor to produce a good result, given that insects, disease, want of or too much rain, does not interfere.

IMPORTATION OF AGRICULTURAL MACHINERY.

The importation of agricultural tools and implements may be said to be entirely from Europe, English and German goods leading; so far, however, I do not think these goods have succeeded in gaining much ground, as in going through the country foreign tools are seldom met with.

On the other hand, the machinery used on sugar, tea, and coffee estates is all imported, being of a complicated nature; sometimes, however, the simpler kinds are made here from foreign models, but the difference is at once clear.

HOW TO INTRODUCE AMERICAN MACHINERY.

The only way in which any real success is to be found in Java is naturally through the European planters; once get American-made agricultural implements into their hands and convince them of their superiority as against other makes, when it seems not unreasonable to expect that the use of American implements on their own estates will certainly, but not at once, exert an influence upon those who labor in the vicinity.

My own idea as to how this business should be worked is certainly simple enough, but it must be tried and persisted in until successful; it is simply for a sharp, practical man, well acquainted with the various qualities and uses of tools and agricultural implements generally, to come here and spend a year at least.

It is useless for firms to send a man to Batavia, or Sourabaya, or Samarang to spend ten to fourteen days, discuss the situation, and go away again.

Spend at least four to six months in traveling about the country, examining and looking into the requirements of each district. He should by that time know pretty well what the people require, and can readily send home, if necessary, samples, with suggestions, &c. He should then open a general show-room, where our tools and implements can be seen and handled by native and Chinese dealers, and I am convinced, if the price does not stand in the way—for the first question here is,

"How much does it cost?"—that the results will justify the preliminary expense.

No doubt objections might be raised to this plan; that something similar to it has been tried before; that manufacturing houses have had men here, &c. All I can say is that they have not gone about it as I deem, after five and one-half years' experience, they should. That most of the men who have been here were interested in a special manufacture; *that what I have seen a German do here, and know he does now*, we can surely do, too, and that the Java market is well worth the time and trouble of a man for as many months as I have known drummers to spend days.

HOW PURCHASES ARE EFFECTED.

Purchases are usually made here on credit; all the way from thirty days to six months, and sometimes even nine are granted. Some houses, however, trade for cash only, or at the outside, give thirty days' credit.

Of course the business, if done on a cash basis, will not equal that done on credit, at least not at first, any way: but in view of the risks to which one is exposed in dealing with Chinese and natives, a cash trade is preferable, even if smaller.

HOW IMPORTATIONS ARE EFFECTED.

Importations into this archipelago from Europe are effected by both steam and sail, direct from England, Holland, or France. German and Belgian manufactures, however, must be sent from the factory to the shipping port in England or Holland.

The Dutch "Stoomvaart Maatschappij Nederland" runs a steamer each way between Amsterdam and Batavia every ten days, calling at Southampton on the outward passage.

The Dutch "Rotterdamsche Lloyd" run a steamer every fortnight from Rotterdam to Batavia, Samarang and Sourabaya.

The Dutch "Stoomvaart Maatschappij Insulinde" run monthly steamers between Amsterdam and Batavia.

I inclose the time-tables of these lines, showing their ports of call, &c., and other items of probable interest.

In addition to these services, the Queensland Royal Mail, a British company, dispatch a steamer from London for Brisbane once every month. These boats run fast, are apparently worked economically, and call at Batavia out and home.

I may add that the Dutch steamers now call at the smaller Java coast ports to discharge and ship cargo; hence merchandise has not to undergo the expense of transshipment, &c., by the local coast steamship company, as was formerly the case.

Besides all these shipping facilities, a goodly number of sailing vessels from England and Holland are dispatched yearly with general cargo.

AMERICAN DISADVANTAGES.

On the face of it the disadvantages we have to contend against in this respect are enormous, and though with proper care, attention, and patience, as I have referred to on a previous page, I believe a business in American manufactured goods can be worked up in Java, still the fact remains that without direct steam communication between the United States and the far East a large and increasing trade is well-nigh impossible. In this opinion I think most East India merchants, consuls, and those interested in the American trade will concur.

AMERICAN STYLES SHOULD BE RETAINED.

I do not think it advisable, in dealing with this country, to alter the finish or style or labels of manufactures. American goods, such as are known, at least, have a good name, and I think that people here would accept the styles offered if the cost be not beyond their ideas or out of proportion to prices of competing goods.

On the other hand, illustrated catalogues should be in Dutch, or Dutch and English, and show-cards in colors also; labels on the goods may be in English.

The charges incurred when landing general merchandise in Batavia are as per copy of the tariff inclosed.

IMPORTERS OF AGRICULTURAL MACHINERY.

The import houses in this city would, no doubt, almost without exception, be willing to engage in the importation of American manufactures if they could see any profit in the business; but I give below the names of those firms here who handle machinery and tools and other manufactured goods, and who would, from their familiarity with the business, be more likely to promote a trade, viz: Messrs. John Pryce & Co., of Batavia; W. H. Hall & Co., Batavia; Rosenthal & Co., Batavia; The Handels Vereeneging Amsterdam, Batavia, Samarang, and Sourabaya; Engelhard & Co., Batavia and Samarang; Harris, Goodwin & Kraft, Batavia; J. Peet & Co., Batavia; Van Duijm & Co., Batavia and Sourabaya; Van den Broek & Veeckens, Samarang; Jacobson van den Berg & Co., Samarang; Short, Short & Co., Batavia; K. Hinlopen, esq., Sourabaya; Reiss & Co., Batavia and Sourabaya; Larsen & Co., Probolingo; J. A. van Putten & Co., Cheribon, Fayal, and Pecalongan.

LEON HATFIELD,
Consul.

UNITED STATES CONSULATE,
Batavia, July 10, 1884.

JAVA NOTES.

All differential duties have been abolished since the 1st January, 1874. The import duty on all cotton and woolen goods is 6 per cent. ad valorem.

Metals free. The only charge on shipping is an anchorage due of 47½ cents per register ton per six months for the whole archipelago.

The currency is guilders and cents. The picul, divided into 100 catties, is 125 pounds Dutch, 136 pounds English, 61.76 kilograms. The coyang is 27 piculs at Batavia, 28 piculs at Samarang, 30 piculs at Sourabaya.

The corge is 20 pieces. The leaguer of Arrack is 388 Batavia cans, 134 imperial gallons, 600 liters.

The ell is 27 inches. The last is equal to 1.89 tons.

All flags are assimilated to the Dutch. Coasting trade is only allowed to Dutch ships.

Tariff of lighterage at Batavia.

	Florins.
Anchors and chains, per picul	.15
Biscuit, per case of 200 tins	1.50
Beer, per ½ pipe	.50
Beer, Dutch:	
In cases 4 dozen	.25
In vats 5 dozen	.35

	Florins.
Beer, English:	
In cases 3 dozen	.25
In cases 4 dozen	.30
In cases 5 dozen	.35
In vats 5 dozen	.40
Butter, per vat of 6 pounds, Dutch	.05
Butter, per case (per cubic meter)	1.75
Bread, per vat of 100 pounds, Dutch	1.50
Bread, per vat of 50 pounds, Dutch	.75
Blankets, per bale of 200:	
Swan's-skin	1.20
Woolen	1.50
Barley, per picul	17.00
Bags, per bale of 250	1.00
Bags, per bale of 300	1.25
Bags, per bale of 350	1.30
Butcher meat, per keg	.07
Copper (sheet), per picul	.12
Cement, per vat	.45
Champagne (as vinegar).	
Cognac (as vinegar).	
Candles, per case of 25 pounds	.10
Crystal ware (as glassware).	
Cordials (as vinegar).	
Carriages (per cubic meter)	2.50
Cigars, per case of 10,000	.70
Coals (consignees to discharge).	
Cordage, per picul	.30
Canvas, per role	.07
Earthenware, per krandjang (basket)	1.75
Earthenware, per case or vat (per cubic meter)	1.75
Eau de cologne, per case (per cubic meter)	1.75
Flour, per barrel of 100 pounds	.45
Flour, per bag of 25 pounds	.06
Flour, per bag of 100 pounds	.20
Furniture (per cubic meter)	1.75
Glassware (as earthenware).	
Glass tiles, per case of 50	.12
Herring, per keg of 12 or less	.03
Herring, per vat	.95
Hours, per piece	.03
Iron, per picul	.12
Iron and tin ware (per cubic meter)	1.75
Lead, per picul	.12
Linseed oil, per square bottle	.12
Lamps (as glassware).	
Hogsheads, per piece	.90
Hogsheads, per half	.50
Gin, per square bottle	.12
Matches, per case (usual packing)	.70
Machinery, per coyang	3.00
Marble, slabs (consignees to discharge).	
Manufactures:	
Per case or bale of 20 pieces	.35
Per case or bale of 40 pieces	.55
Madappolams, per case or bale of 50 pieces	.50
Madappolams, raw, per case or bale of 50 pieces	.60
Shirtings, per case or bale of 50 pieces	.60
Madappolams, per case or bale of 100 pieces	.80
Madappolams, raw, per case or bale of 100 pieces	1.00
Madappolams, per case or bale of 25 pieces	.60
Madappolams, per case or bale of 200 pieces	
Cambrics, per 100 pieces	.35
Cambrics, per 200 pieces	.75
Mineral waters, per basket of 25 bottles, or 50-half-jugs	.30
Mineral waters, per case (as vinegar).	
Mirrors (per cubic meter)	2.00
Meat (as pork).	
Nails, per keg of 1 cwt	.10

	Florins
Nails, per keg of 1 picul	.12
Oil (as vinegar).	
Peas (as beans).	
Pitch, per barrel of 1 foot high	.25
Pitch, per barrel of 2¼ feet high	.45
Pianos (per cubic meter)	1.80
Porcelain-ware (as earthenware).	
Provisions, per case	.25
Provisions, Australian, per case	.35
Papers, per case	1.10
Petroleum, per case	.08
Pork, per keg of 50 pounds	.35
Pork, per barrel of 100 pounds	.70
Pork, per barrel of 200 pounds	1.40
Playthings (per cubic meter)	1.75
Paints, per keg of 25 pounds	.12
Rye (as beans).	
Shot, per picul	.12
Sirloin, per vat of 100 pounds	.45
Saltpeter, per picul	.12
Soda, per drum	.50
Steel (as nails).	
Stones, artificial (consignees to discharge).	
Soap, per case	.01¼
Soap, per keg of 25 pounds	.10
Tin, per case	.12
Thread (white or colored), per bale of 1 picul	.40
Thread (white or colored), per bale of 1½ piculs	.70
Thread (white or colored), per bale or case of 3 piculs	1.20
Tow, per vat of 100 pounds	.45
Tar, per barrel (large)	.50
Tar, per barrel (small)	.40
Vinegar, per pipe	1.50
Vinegar, per ½ pipe	.90
Vinegar, per ¼ pipe	.50
Vinegar, per hogshead	1.00
Vinegar, per ½ hogshead	.60
Vinegar, per ¼ hogshead	.40
Vinegar, per 1 dozen, in cases, baskets, vats, or other bulk	.10
Vinegar, per 2 dozen, in cases, baskets, vats, or other bulk	.15
Vinegar, per 3 dozen, in cases, baskets, vats, or other bulk	.20
Vinegar, per 4 dozen, in cases, baskets, vats, or other bulk	.25
Vinegar, per 5 dozen, in cases, baskets, vats, or other bulk	.30
Vinegar, per 6 dozen, in cases, baskets, vats, or other bulk	.35
Vegetables, per keg	.07
Vegetables, per case of 6 tins	.30
Vermouth (as vinegar).	
White lead, per keg of 25 pounds	.12
Window-glass, per case (usual sizes)	.20
Wine (as vinegar).	
Zinc, per picul	.12

Goods not named to be charged for according to their similarity to articles on this list. For coolie hire when discharging, 35 per cent. of the lighterage may be calculated upon.

Mail table showing the departures and due dates of the Netherlands' mail steamers, via Suez Canal, from Amsterdam, Southampton, Marseilles, and Padang to Batavia and back to Marseilles and Amsterdam, 1884.

[Ten-daily service.]

Outward.						Homeward.					
Leave Amsterdam.	Leave Southampton.	Leave Marseilles.	Arrive Port-Said.	Leave Suez.	Arrive Padang.	Arrive Batavia.	Leave Batavia.	Leave Padang.	Arrive Suez.	Leave Port-Said.	Arrive Marseilles.	Arrive Amsterdam.
Jan. 9, '84	Jan. 12, '84	Jan. 21, '84	Jan. 27, '84	Jan. 29, '84	Feb. 18, '84	Feb. 21, '84	Mar. 22, '84	Mar. 25, '84	Apr. 16, '84	Apr. 18, '84	Apr. 24, '84	May 6, '84
Jan. 19, '84	Jan. 22, '84	Jan. 31, '84	Feb. 6, '84	Feb. 8, '84	.....	Mar. 2, '84	Apr. 8, '84	.....	Apr. 27, '84	Apr. 29, '84	May 5, '84	May 17, '84
Jan. 30, '84	Feb. 2, '84	Feb. 11, '84	Feb. 17, '84	Feb. 19, '84	Mar. 10, 84	Mar. 13, '84	Apr. 12, '84	.....	May 7, '84	May 9, '84	May 15, '84	May 27, '84
Feb. 9, '84	Feb. 12, '84	Feb. 21, '84	Feb. 27, '84	Feb. 29, '84	.....	Mar. 23, '84	Apr. 23, '84	Apr. 26, '84	May 18, '84	May 20, '84	May 26, '84	June 7, '84
Feb. 20, '84	Feb. 23, '84	Mar. 3, '84	Mar. 9, '84	Mar. 11, '84	Mar. 31, '84	Apr. 3, '84	May 3, '84	.....	May 28, '84	May 30, '84	June 5, '84	June 17, '84
Mar. 1, '84	Mar. 4, '84	Mar. 13, '84	Mar. 19, '84	Mar. 21, '84	.....	Apr. 13, '84	May 14, '84	.....	June 8, '84	June 10, '84	June 16, '84	June 28, '84
Mar. 12, '84	Mar. 15, '84	Mar. 24, '84	Mar. 30, '84	Apr. 1, '84	Apr. 21, 84	Apr. 24, '84	May 24, '84	May 27, '84	June 18, '84	June 20, '84	June 26, '84	July 8, '84
Mar. 22, '84	Mra. 25, '84	Apr. 3, '84	Apr. 9, '84	Apr. 11, '84	.....	May 4, '84	June 4, '84	.....	June 29, '84	July 1, '84	July 7, '84	July 19, '84
Apr. 2, '84	Apr. 5, '84	Apr. 14, '84	Apr. 20, '84	Apr. 22, '84	May 12, '84	May 15, '84	June 14, '84	.....	July 9, '84	July 11, '84	July 17, '84	July 29, '84
Apr. 12, '84	Apr. 15, '84	Apr. 24, '84	Apr. 30, '84	May 2, '81	.....	May 25, '84	June 25, '84	June 28, '84	July 20, '84	July 22, '84	July 28, '84	Aug. 9, '84
Apr. 23, '84	Apr. 26, '84	May 5, '84	May 11, '84	May 13, '84	June 2, '84	June 5, '84	July 5, '84	.....	July 30, '84	Aug. 1, '84	Aug. 7, '84	Aug. 19, '84
May 3, '84	May 6, '84	May 15, '84	May 21, '84	May 23, '84	.....	June 15, '84	July 16, '84	.....	Aug. 10, '84	Aug. 12, '84	Aug. 18, '84	Aug. 30, '84
May 14, '84	May 17, '84	May 26, '84	June 1, '84	June 3, '84	June 23, '84	June 26, '84	July 26, '84	July 29, '84	Aug. 20, '84	Aug. 22, '84	Aug. 28, '84	Sept. 9, '84
May 24, '84	May 27, '84	June 5, '84	June 11, '84	June 13, '84	.....	July 6, '84	Aug. 6, '84	.....	Aug. 31, '84	Sept. 2, '84	Sept. 8, '84	Sept. 20, '84
June 4, '84	June 7, '84	June 16, '84	June 22, '84	June 24, '84	July 14, '84	July 17, '84	Aug. 16, '84	.....	Sept. 10, '84	Sept. 12, '84	Sept. 18, '84	Sept. 30, '84
June 14, '84	June 17, '84	June 26, '84	July 2, '84	July 4, '84	.....	July 27, '84	Aug. 27, '84	Aug. 30, '84	Sept. 21, '84	Sept. 23, '84	Sept. 29, '84	Oct. 11, '84
June 25, '84	June 28, '84	July 7, '84	July 13, '84	July 15, '84	Aug. 4, '84	Aug. 7, '84	Sept. 6, '84	.....	Oct. 1, '84	Oct. 3, '84	Oct. 9, '84	Oct. 21, '84
July 5, '84	July 8, '84	July 17, '84	July 23, '84	July 25, '84	.....	Aug. 17, '84	Sept. 17, '84	.....	Oct. 11, '84	Oct. 13, '84	Oct. 19, '84	Oct. 31, '84
July 16, '84	July 19, '84	July 28, '84	Aug. 3, '84	Aug. 5, '84	Aug. 25, '84	Aug. 28, '84	Sept. 27, '84	Sept. 30, '84	Oct. 21, '84	Oct. 24, '84	Oct. 30, '84	Nov. 11, '84
July 26, '84	July 29, '84	Aug. 7, '84	Aug. 13, '84	Aug. 15, '84	.....	Sept. 7, '84	Oct. 8, '84	.....	Nov. 2, '84	Nov. 4, '84	Nov. 10, '84	Nov. 22, '84
Aug. 6, '84	Aug. 9, '84	Aug. 18, '84	Aug. 24, '84	Aug. 26, '84	Sept. 15, '84	Sept. 18, '84	Oct. 18, '84	.....	Nov. 12, '84	Nov. 14, '84	Nov. 20, '84	Dec. 2, '84
Aug. 16, '84	Aug. 19, '84	Aug. 28, '84	Sept. 3, '84	Sept. 5, '84	.....	Sept. 28, '84	Oct. 29, '84	Nov. 1, '84	Nov. 23, '84	Nov. 25, '84	Dec. 1, '84	Dec. 13, '84
Aug. 27, '84	Aug. 30, '84	Sept. 8, '84	Sept. 14, '84	Sept. 16, '84	Oct. 6, '84	Oct. 9, '84	Nov. 8, '84	.....	Dec. 3, '84	Dec. 5, '84	Dec. 11, '84	Dec. 23, '84
Sept. 6, '84	Sept. 9, '84	Sept. 18, '84	Sept. 24, '84	Sept. 26, '84	.....	Oct. 19, '84	Nov. 19, '84	.....	Dec. 14, '84	Dec. 16, '84	Dec. 22, '84	Jan. 3, '85
Sept. 17, '84	Sept. 20, '84	Sept. 28, '84	Oct. 5, '84	Oct. 7, '84	Oct 27, '84	Oct. 30, '84	Nov. 29, '84	Dec. 2, '84	Dec. 24, '84	Dec. 26, '84	Jan. 1, '85	Jan. 13, '84
Sept. 27, '84	Sept. 30, '84	Oct. 9, '84	Oct. 15, '84	Oct. 17, '84	.....	Nov. 9, '84	Dec. 10, '81	.....	Jan. 4, '85	Jan. 6, '85	Jan. 12, '85	Jan. 24, '85
Oct. 8, '84	Oct. 11, '84	Oct. 20, '84	Oct. 26, '84	Oct. 28, '84	Nov. 17, '84	Nov. 20, '84	Dec. 20, '84	.....	Jan. 14, '85	Jan. 16, '85	Jan. 22, '85	Feb. 3, '85
Oct. 18, '84	Oct. 21, '84	Oct. 30, '84	Nov. 5, '84	Nov. 7, '84	.....	Nov. 30, '84	Dec. 31, 84	Jan. 3, '85	Jan. 25, '85	Jan. 27, '85	Feb. 2, '85	Feb. 14, '85
Oct. 29, '84	Nov. 1, '84	Nov. 10, '84	Nov. 16, '84	Nov. 18, '84	Dec. 8, '84	Dec. 11, '84	Jan. 10, '85	.....	Feb. 4, '85	Feb. 6, '85	Feb. 12, '85	Feb. 24, '85
Nov. 8, '84	Nov. 11, '84	Nov. 10, '84	Nov. 26, '84	Nov. 28, '84	.....	Dec. 21, '84	Jan. 21, '85	.....	Feb. 15, '85	Feb. 17, '85	Feb. 23, '85	Mar. 7, '85
Nov. 19, '84	Nov. 22, '84	Dec. 1, '84	Dec. 7, '84	Dec. 9, '84	Dec. 29, '84	Jan. 1, '85	Jan. 31, '85	Feb. 3, '85	Feb. 25, '85	Feb. 27, '85	Mar. 5, '85	Mar. 17, '85
Nov. 29, '84	Dec. 2, '84	Dec. 11, '84	Dec. 17, '84	Dec. 19, '84	.....	Jan. 11, '85	Feb. 11, '85	.....	Mar. 8, '85	Mar. 10, '85	Mar. 16, '85	Mar. 28, '85
Dec. 10, '84	Dec. 13, '84	Dec. 22, '84	Dec. 28, '84	Dec. 30, '84	Jan. 19, '85	Jan. 22, '85	Feb. 21, '85	.....	Mar. 18, '85	Mar. 20, '85	Mar. 26, '85	Apr. 7, '85
Dec. 20, '84	Dec. 23, '84	Jan. 1, '85	Jan. 7, '85	Jan. 9, '85	.....	Feb. 1, '85	Mar. 4, '85	Mar. 7, '85	Mar. 29, '85	Mar. 31, '85	Apr. 6, '85	Apr. 18, '85
Dec. 31, '84	Jan. 3, '85	Jan. 12, '84	Jan. 18, '85	Jan. 20, '85	Feb. 9, '85	Feb. 12, '85	Mar. 14, '85	.....	Apr. 8, '85	Apr. 10, '85	Apr. 16, '85	Apr. 28, '85

Time-table showing the departures and due dates of the steamers from Rotterdam, via Southampton and Marseilles, to Padang, Batavia, Samarang, and Sourabaja, taking goods for transshipment to all other ports of the Indian Archipelago and back, 1884.

[Fortnightly service.]

Steamships.	Outward.				Homeward.			
	Leave Rotterdam.	Leave Southampton.	Leave Marseilles.	Due at Batavia.	Leave Batavia.	Due at Marseilles.	Leave Marseilles.	Due at Rotterdam.
Zuid-Holland	Jan. 5	Jan. 9	Jan. 18	Feb. 20	Mar. 22	Apr. 26	Apr. 28	May 8
Soerabaja	Jan. 19	Jan. 23	Feb. 1	Mar. 5	Apr. 5	May 10	May 12	May 22
Utrecht	Feb. 2	Feb. 6	Feb. 15	Mar. 19	Apr. 19	May 24	May 26	June 5
Samarang	Feb. 16	Feb. 20	Feb. 29	Apr. 2	May 3	June 7	June 9	June 19
Noord-Holland	Mar. 1	Mar. 5	Mar. 14	Apr. 16	May 17	June 21	June 23	July 3
Noord-Braband	Mar. 15	Mar. 19	Mar. 28	Apr. 30	May 31	July 5	July 7	July 17
Limburg	Mar. 29	Apr. 2	Apr. 11	May 14	June 14	July 19	July 21	July 31
Gelderland	Apr. 12	Apr. 16	Apr. 25	May 28	June 28	Aug. 2	Aug. 4	Aug. 14
Drenthe	Apr. 26	Apr. 30	May 9	June 11	July 12	Aug. 16	Aug. 18	Aug. 28
Batavia	May 10	May 14	May 23	June 25	July 26	Aug. 30	Sept. 1	Sept. 11
Zeeland	May 24	May 28	June 6	July 9	Aug. 9	Sept. 13	Sept. 15	Sept. 25
Zuid-Holland	June 7	June 11	June 20	July 23	Aug. 23	Sept. 27	Sept. 29	Oct. 9
Soerabaja	June 21	June 25	July 4	Aug. 6	Sept. 6	Oct. 11	Oct. 13	Oct. 23
Utrecht	July 5	July 9	July 18	Aug. 20	Sept. 20	Oct. 25	Oct. 27	Nov. 6
Samarang	July 19	July 23	Aug. 1	Sept. 3	Oct. 4	Nov. 8	Nov. 10	Nov. 20
Noord-Holland	Aug. 2	Aug. 6	Aug. 15	Sept. 17	Oct. 18	Nov. 22	Nov. 24	Dec. 4
Noord-Braband	Aug. 16	Aug. 20	Aug. 29	Oct. 1	Nov. 1	Dec. 6	Dec. 8	Dec. 18 1885.
Limburg	Aug. 30	Sept. 3	Sept. 12	Oct. 15	Nov. 15	Dec. 20 1885.	Dec. 22 1885.	Jan. 1
Gelderland	Sept. 13	Sept. 17	Sept. 26	Oct. 29	Nov. 29	Jan. 3	Jan. 5	Jan. 15
Drenthe	Sept. 27	Oct. 1	Oct. 10	Nov. 12	Dec. 13	Jan. 17	Jan. 19	Jan. 29
Batavia	Oct. 11	Oct. 15	Oct. 24	Nov. 26	Dec. 27 1885.	Jan. 31	Feb. 2	Feb. 12
Zeeland	Oct. 25	Oct. 29	Nov. 7	Dec. 10	Jan. 10	Feb. 14	Feb. 16	Feb. 26
Zuid-Holland	Nov. 8	Nov. 12	Nov. 21	Dec. 24 1885.	Jan. 24	Feb. 28	Mar. 2	Mar. 12
Soerabaja	Nov. 22	Nov. 26	Dec. 5	Jan. 7	Feb. 7	Mar. 14	Mar. 16	Mar. 26
Utrecht	Dec. 6	Dec. 10	Dec. 19 1885.	Jan. 21	Feb. 21	Mar. 28	Mar. 30	Apr. 9
Samarang	Dec. 20	Dec. 24	Jan. 2	Feb. 4	Mar. 7	Apr. 11	Apr. 13	Apr. 23

If, on account of the prevailing monsoon, the steamers cannot call at Samarang, the cargo destined for that port will be transshipped at Batavia. In case of ice the steamers start from Flushing.

BRITISH INDIA STEAM NAVIGATION COMPANY, LIMITED.

Time table showing departures and due dates of the steamers via Suez Canal from Amsterdam, London, Bordeaux-Pauillac to Padang, Batavia, Samarang, Soerabaija, and Macasser, taking goods for transshipment to all other ports of the Indian Archipelago and back to Amsterdam, 1884.

[Four weekly service.]

Outward.							Homeward.			
Leave Amsterdam.	Leave London.	Leave Pauillac.	Arrive at Port Said.	Leave Suez.	Arrive at Padang.	Arrive at Batavia.	Leave Batavia.	Arrive at Suez.	Leave Port Said.	Arrive at Amsterdam.
Jan. 19	Jan. 23	Jan. 28	Feb. 10	Feb. 12	Mar. 5	Mar. 8	Apr. 12	May 9	May 11	May 27
Feb. 23	Feb. 27	Mar. 2	Mar. 16	Mar. 18	Apr. 9	Apr. 12	May 17	June 13	June 15	July 1
Mar. 22	Mar. 26	Mar. 31	Apr. 13	Apr. 15	May 7	May 10	June 14	July 10	July 13	July 28
Apr. 19	Apr. 23	Apr. 28	May 11	May 13	June 4	June 7	July 12	Aug. 8	Aug. 10	Aug. 26
May 17	May 21	May 26	June 8	June 10	July 2	July 5	Aug. 9	Sept. 5	Sept. 7	Sept. 23
June 14	June 18	June 23	July 6	July 8	July 30	Aug. 2	Sept. 6	Oct. 3	Oct. 5	Oct. 21
July 12	July 16	July 21	Aug. 3	Aug. 5	Aug. 27	Aug. 30	Oct. 4	Oct. 31	Nov. 2	Nov. 18
Aug. 9	Aug. 13	Aug. 18	Aug. 31	Sept. 2	Sept. 24	Sept. 27	Nov. 1	Nov. 28	Nov. 30	Dec. 16 1885.
Sept. 6	Sept. 10	Sept. 15	Sept. 28	Sept. 30	Oct. 22	Oct. 25	Nov. 29	Dec. 26 1885.	Dec. 28 1885.	Jan. 13
Oct. 4	Oct. 8	Oct. 13	Oct. 26	Oct. 28	Nov. 19	Nov. 22	Dec. 27 1885.	Jan. 23	Jan. 25	Feb. 10
Nov. 1	Nov. 5	Nov. 10	Nov. 23	Nov. 25	Dec. 17 1885.	Dec. 20 1885.	Jan. 24	Feb. 20	Feb. 22	Mar. 10
Nov. 29	Dec. 3	Dec. 8 1885.	Dec. 21 1885.	Dec. 23 1885	Jan. 14	Jan. 27	Feb. 21	Mar. 20	Mar. 22	Apr. 7
Dec. 27	Dec. 31	Jan. 5	Jan. 18	Jan. 20	Feb. 11	Feb. 14	Mar. 21	Apr. 17	Apr. 19	May 5

CONTINENT OF AFRICA.

SOUTH AFRICA.

REPORT BY CONSUL SILER, OF CAPE TOWN.

In Cape Colony, Orange Free State, Natal, and some of the native districts embraced within this consular jurisdiction, the size of farms ranges from 500 to 10,000 acres.

WIRE FENCING.

The farms are mostly uninclosed by fencing, but recently wire fencing has been introduced, and proved satisfactory, wooden fencing being out of the question, owing to the scarcity of timber. Wire fencing, as the financial state of the colony improves, will surely be in great demand.

AGRICULTURAL MACHINERY.

Agricultural implements and machinery are imported, there being no manufacture of these articles in the colony. They are imported from the United States and Europe. American implements and machinery, on the whole, compare favorably with those manufactured in other countries; still the farmers care but little for the elaborate style of finish for which American work is noted, they looking only to the strength and durability of the articles purchased by them.

HOW FOREIGN MACHINERY IS INTRODUCED.

Foreign implements and machinery are generally introduced here through the medium of commercial travelers, and under this head I regret to have to state that much trade with the United States which might have been obtained has been thrown away on account of the inferior and irresponsible class of men sent out to solicit trade.

AREA OF HOLDINGS.

In 1865 the area of holdings in this consular district was 41,000,000 acres. In 1875 it had reached 80,000,000, distributed as follows: 21,000,000 quit rent, 13,000,000 leases, 10,000,000 other leases, and the balance freehold.

ACREAGE UNDER CULTIVATION.

According to the most accurate estimate now available, the amount of land now actually under cultivation is about 6,000,000 acres. Ten years ago, at the time the last census of the colony was taken, agricultural products were estimated as follows: Wheat, 1,687,935 bushels;

barley, 437,941 bushels; rye, 214,260 bushels; oats, 1,855,827 bushels; maize and millet, 113,007 bushels; peas, 60,636 bushels; potatoes, 371,523 bushels; tobacco, 3,060,241 pounds; dried fruits, 2,672,761 pounds.

PRICES OF AGRICULTURAL PRODUCTS.

With reference to the prices of agricultural products, taking the prices ranging from 1877 to 1883, they are as follows: Wheat, $2.50; potatoes, $1.78; barley, $1.77; rye, $1.76; oats, $1.80; maize, $1.46; peas and beans, $1.64.

HOW TO INTRODUCE AMERICAN MACHINERY.

With respect to the best mode of introducing agricultural implements and machinery into this country, I beg to reiterate a recommendation made to the Department by me soon after taking charge of this consular post, viz, that a sample-room be established in Cape Town by American merchants, under the management of a responsible person, who not only could take orders himself, but employ suitable men to solicit orders throughout the country. At present the manufactures first pass through the hands of the landing and shipping agents, thence to the merchants' stores, and then to the final purchaser, the farmer.

CUSTOMS AND HABITS OF SOUTH AFRICAN FARMERS.

The customs and business habits of the South African farmer are very different from the American or even the European farmer; the majority of African farmers are Dutchmen or descendants of Dutchmen, are conservative in all their views, and, as a rule, are prejudiced against too many innovations on old-established customs. Owing to this fact they do not, as a rule, keep pace with the very latest inventions; for instance, they still adhere to the old style of farm wagon of twenty-five years ago, the motive power of which is furnished either by teams of fourteen oxen or of ten mules. These vehicles are capable of carrying a dead weight of no fewer than 8 tons.

Efforts have been continually made for the past quarter of a century to introduce improved agricultural implements and machinery and even one tribe of natives, the Basutas, own hundred sof plows; but their taste for war is stronger than their love for bucolic pursuits, hence their progress is slow.

IMPORTERS OF AGRICULTURAL MACHINERY.

The following-named merchants are largely engaged in the importation of agricultural machinery, &c., viz: J. Searight & Co., Robinson & Co., Findlay & Co., C. G. Akerberg, and R. M. Ross & Co., from England and the Continent; while Philip Bros., Wiley & Co., and Van der Byl & Co. import principally from the United States. It may be well to mention that the firm of Hornsby & Co., of England, have a branch establishment here, and it is owing greatly to the fine display they make that they enjoy the largest patronage of any firm in that line of business.

In 1883 agricultural implements to the value of $99,875 were imported. During the same year agricultural machinery was imported to the value of $15,000. Of these amounts, $19,990 for implements was from the United States. On agricultural machinery there is no duty; on implements the duty is 10 per cent.

CONDITION OF AGRICULTURE IN CAPE COLONY.

At present it does not appear that there is sufficient inducement for our manufacturers to go to any considerable expense in attempting to produce a particular class of machinery or implements for the South African trade, for the reason that the progress of this country has always been relatively slow, with little prospect of immediate improvement, owing to the antagonistic elements of the population, made up as it is of people with conflicting ideas. There will always be serious differences of ideas between the Dutch and English farmers, while the German peasants, now settled in various parts of the country, are debarred by want of capital and acquaintance with the two langdages of the colony—Dutch and English—from having much voice in the policy of the country. With regard to the natives, with the exception of the Basutas, their knowledge and practice of agricultural industry is almost *nil.*

Opinions differ as to when commercial and agricultural occupations at the Cape will be prosecuted with the vigor obtaining for the most part since the great rush to the diamond fields in 1870; some contending that the depression has reached its lowest ebb, while others hold that matters will grow even worse. At present I can only say that there seems little or no indication of any improvement. Property owners are so hampered with mortgages and high interest that their capital is locked up.

STEAM COMMUNICATION WANTED.

In conclusion I desire to say, as I have frequently said in previous reports, that our commerce with this part of the world can never, and will never, amount to its legitimate magnitude until we have steam communication with the United States.

JAS. W. SILER,
Consul.

UNITED STATES CONSULATE,
Cape Town, May 27, 1884.

CANARY ISLANDS.

REPORT BY CONSUL M'KAY.

In accordance with instructions contained in the circular dated February 20 last, I have the honor to submit herewith my report on the importation and sale of agricultural machinery in the Canary Islands.

I beg leave to precede my remarks with the observation that they are principally founded on my experience as a merchant established here for more than fourteen years, and although I have made some inquiries since receipt of the circular, the replies to these inquiries have only supported me in the opinion already formed.

HISTORICAL INTRODUCTION.

The archipelago consists of seven inhabited and some two or three uninhabited islands, and contains about 300,000 souls, fully nineteen-twentieths being descendants of Spaniards, who first began to establish themselves here nearly five centuries ago.

Their historians tell how they found a comparatively unknown race in occupation of these islands; how, after some fifty or sixty years of continual strife and bloodshed, the Spaniards finally subdued the natives and occupied the islands under the right of conquest; how the conquered were a simple, peaceable people, devoted to agricultural pursuits, with but a few rude implements for assistance; and how the islands where the conquest began were thickly wooded from the mountain-tops to the sea-shore.

This has all been greatly changed; the original race has completely disappeared, and the once abundant forests now exist only in the almost inaccessible mountain heights 4,000 to 8,000 feet above the level of the sea.

The loss of the woods has caused a great decrease in the supply of water, rain only falling from November to March, and frequently in such diminished quantities that the scarcity in some localities causes great inconvenience and at times serious alarm.

This is especially the case with the Island of Lanzarote, to which I have known of water being carried in vessels from the other islands for three or four successive summers.

CULTIVATION OF THE SOIL.

The soil is light and thin, and but for what is known of the results, I should look upon it as almost worthless, it being so different from the heavy, deep soil so abundant with us.

Cultivation is carried on with the most primitive implements, the wooden plow of the Pharaohs and the flat, studded harrows, I imagine, that were used in the time of Moses.

Oxen and cows are used indiscriminately, drawing by the head as I have seen illustrated in ancient histories. Horses and mules in farm abor are used to a limited extent, and in some parts camels are put to the before-mentioned wooden plow, as also for other work.

IMPLEMENTS OF AGRICULTURE IN USE.

As to agricultural tools, there is a good field for introduction; but the people are very slow in taking up with modern implements and machinery. Light plows, corn-planters, wheat-fans, and wine-presses, with a very limited number of horse power thrashers, might be introduced with advantage, if the people could only be prevailed upon to use them.

I have also sold a small number of corn-shellers of the cheapest kind, from year to year, but my efforts to show the utility of other implements have been almost in vain, from causes I will state further on.

AMERICAN TOOLS AND MACHINERY.

American tools and machinery are more used than those of other manufacturers; always bearing in mind that I refer to agricultural implements, and that in all kinds the demand is quite limited.

The style or make is not the attraction, however, but the low cost, especially for articles in which wood makes the chief component.

HOW AMERICAN MACHINES ARE IMPORTED.

Importations from the United States are made altogether in sailing vessels, and sales are made for cash or short time.

No duties are charged on this class of goods from any country, but

our advantages in point of freight rates and frequency of communication are decidedly less than those enjoyed by other points, as steamers from Spain, France, Germany, and England make periodical and frequent calls in the islands.

All illustrated catalogues and explanations as to use of the tools and machinery should be in the Spanish language.

Expenses on these importations would be very small, consisting here of lighterage, cartage, and storage, rates for all of which are very low.

HABITS AND SYSTEMS OF AGRICULTURISTS.

I now come to the point referred to previously, viz, "habits and systems among agriculturists," which, in my judgment, exert a powerful and unfortunate effect on the introduction and use of modern agricultural appliances.

The farms are usually very reduced in size, say 10 acres on an average, frequently running to 2 or 3, and very seldom passing 50 acres.

Some proprietors have three or four such farms, others a half a dozen, and a few as many as ten or twelve, more or less scattered, all cultivated on shares with the peasants, one head of family to each small farm.

The proprietor lets the small farmer have the land, each paying half the taxes and seed planted, the crop being divided in equal parts when it is gathered, and the farmer delivering the proprietor's share at the residence of the latter.

The owners of the land have very little to say as to the seed to be planted or its mode of cultivation, some even not seeing their property for more than a year, as they reside very often in towns or cities 5, 10, or 15 miles away.

The result is, the peasant or small farmer on shares has no capital for purchasing scarcely anything, and the real-estate owners think it useless to invest money in tools, &c., which may or may not be utilized, or which, from carelessness or stupidity, may be broken or lost in a short time.

This is the system most in vogue in the islands, although there are cases where proprietors cultivate their own lands, and others where lands are rented at a fixed sum, these last being the least frequent.

I have for a number of years endeavored as a merchant to extend the sale of our manufactures here, and regret to say that my efforts have met with but little success, and attribute it principally to the causes just set forth, together with the apathy natural to the Spanish character, augmented, perhaps, by the great want of education so common among the peasantry.

If any of our manufacturers wish for further details or determine to establish agencies here, I willingly place my services at their commands, and will renew the efforts which I had almost abandoned as useless.

H. B. McKAY,
Consul.

UNITED STATES CONSULATE,
Teneriffe, June 24, 1884.

AUSTRALASIA.

VICTORIA.

REPORT BY CONSUL-GENERAL SPENCERE, OF MELBOURNE.

Victoria, although the smallest, is the most populous and perhaps the richest and most prosperous of the Australasian colonies. Lying between the thirty-fourth and thirty-ninth parallels of south latitude the colony has an area of 87,884 square miles, or 56,245,760 acres, and an estimated population of 931,790 inhabitants.

At the commencement of the year 1884 the extent of land under cultivation was 2,215,923 acres, and the number of cultivators was 37,146. Of this area, 1,104,392 acres were devoted to wheat, 188,161 acres to oats, 46,832 acres to barley, 40,195 acres to potatoes, and 302,957 to hay. In addition to these five principal crops, artificial grasses and green forage occupied 286,866 acres, while maize, rye, fruit trees, vines, tobacco, and hops, and a few other crops of minor importance, occupied 246,520 acres. The produce of the wheat during the same year amounted to 15,570,245 bushels, that of oats to 4,717,624 bushels, that of barley to 1,069,803, and that of hay to 433,143 tons.

Land for agricultural purposes may be obtained direct from the Crown on unusually easy terms, all alienated country lands being, with few exceptions, open for selection in quantities not exceeding 320 acres to one individual. Farms for agricultural purposes usually embrace from 200 to 1,000 acres, and pastoral "runs" from 20,000 to 60,000 acres. The soil in the agricultural districts is, for the most part, of a stiff, clayey nature, baking hard under the effects of an unusually dry climate, and, consequently, requiring agricultural implements of more than ordinary strength and durability. With regard to its productiveness, it may be stated that during the past year it produced, on an average, 14 bushels of wheat, 25 bushels of oats, 23 bushels of barley, and 1½ tons of hay to the acre.

LABOR-SAVING MACHINERY.

Labor-saving machinery and implements are extensively used in the colony, and are applied, whenever practicable, in the various branches of agricultural industry. As a rule the most advanced appliances are adopted, and there is a growing tendency in favor of the use of machinery. Owing, however, to the high protective tariff in Victoria, which is from 20 to 25 per cent. ad valorem on agricultural implements and machinery, a large proportion of the same are manufactured in the colony, foreign models for the most part being utilized and adapted to the special requirements of native industry.

The cultivation of wheat is carried on chiefly by double-furrow plows, strongly constructed of wrought iron, which are generally of colonial

manufacture. English and American plows are rarely to be met with. Harrows and reaping machines are also extensively manufactured in the colony. On the other hand, scarifiers, seed-sowers, mowers, reapers and binders, thrashing machines, and portable engines are largely imported, especially the more complicated of the above-named appliances.

England and America furnish nearly all the imported agricultural tools, implements, and machinery. American reapers and binders, notably Wood's, McCormick's, and Osborne's, are most generally used, and are likely to maintain their supremacy notwithstanding the recent appearance in the field of three English firms.

A similar remark applies to American edge tools, shovels, spades, hay forks and rakes. Implements intended for light work in orchards and vineyards, such as plowing and scarifying, are of English and American manufacture in about equal proportions. In mowing machines England has a slight advantage in the trade over America, while she enjoys a monopoly in the importation of thrashing machines and portable engines.

In the principal wheat-producing districts of Victoria the straw is short and considered of but little value. In such districts the "Australian stripper," a reaping and thrashing machine combined, is extensively used. Its employment is confined by climatic conditions to the northern half of the colony, but within that section it is likely to maintain itself against all competition. It could not be displaced by the "California header," but the recently invented "California combined harvester" would be more economical. Colonial inventors, however, give promise of success in attaching grain-clearing appliances to the "stripper," an improvement which would doubtless make it master of the situation in the northern half of the colony.

I regret that I am unable to enter more into detail relative to the importation of agricultural machinery into the colony, as the following is the fullest information I have been able to obtain on the subject:

Countries whence imported.	Agricultural implements, 1882.			Agricultural machinery, 1882.		
	Rate of duty.	Quantities.	Value.	Rate of duty.	Quantities.	Value.
		Packages.			*Packages.*	
United Kingdom	20 per cent.	1,121	$55,537	Free	261	$17,218
New South Wales	do	114	4,180	do	14	3,870
New Zealand	do	6	170	do	41	3,708
South Australia	do	63	5,470	do	46	2,278
Ceylon	do	13	1,766	do	123	33,963
Boston	do	230	2,083	do	2	521
New York	do	249	9,290			
New South Wales	Free	18	949			
			79,445			61,567

AMERICAN MANUFACTURES.

American manufactures are deservedly appreciated for their beauty of design, lightness of construction, and general adaptability to the work for which they are intended. In such tools as axes, forks, and rakes these advantages have brought them into general use, but American plows and other implements of cultivation are not considered strong enough for the stiff, clayey soil of the colony, while farmers are in many cases afraid that the light construction of harvesting-machinery is not compatible with durability. Although the machines are found on trial to

be fairly durable, there still exists a decided prejudice in favor of apparently stronger though more clumsy-looking machinery. Thus, while farmers who have used American reapers and binders prefer them to any others, many have sought the newly-invented English machines on account of their appearance of greater strength and durability.

There are two important considerations which American manufacturers, desirous of strengthening their Australian trade should bear in mind:

First. That the climate of Australia is drier and more severe upon wood-work than any part of America, not excepting Southern California. This should be taken into account in selecting the lumber for harvesting-machinery, and iron wheels should, as a rule, be substituted for wooden ones.

Second. That the stiff, clayey nature of the soil causes the harvest field to be rough and uneven, thus involving a severe shaking of the machinery employed.

MANNER OF INTRODUCTION OF MACHINERY.

The manufactures of the several countries are generally introduced and placed on the market by importers having their agents or representatives at the principal agricultural centers of the colony. The agent should be provided with samples from which he can take orders, and which should be exhibited at the various agricultural shows. In addition to this, any articles new to this market ought to be freely advertised.

Representatives of manufacturers in Great Britain and America occasionally visit Melbourne and bring their specialties under the notice of the importers, who give due encouragement to such of these representatives as do not attempt to compete with them by selling to their legitimate customers. Sometimes commercial travelers, principally those representing British manufactures, sell their goods to country storekeepers and small firms in Melbourne, with the result ordinarily that they fail to do as large a business as might be done in time through the recognized importing houses. Recently several British manufacturers have established branch houses in Melbourne, but as the expenses are heavy and their trade for many years must be comparatively limited, it is doubtful whether such undertakings will be found to be profitable.

Reference should also be made to the system of shipping consignments of goods for sale on consignor's account. This system, which obtains to a considerable extent among European manufacturers, is frequently carried out in an indiscriminate and injudicious manner.

In the first place goods unsuitable to the market very often arrive in this port which no importer would purchase on his own account.

Secondly, the market is very often overstocked with certain classes of tools, implements, and machinery, which are salable only to a limited extent. The consequence is that the market becomes glutted, the prices realized are unremunerative, while manufacturers with new appliances and inventions become discouraged, and are deterred from sending trial shipments, which might reasonably be expected to result most advantageously both to themselves and the importer.

Generally speaking, Victorian agriculturists, as well as residents in towns and cities, true to the spirit of English conservatism, are slow to adopt anything new, and when convinced of the superiority of an article, if it can be locally made, they prefer the domestic to the foreign manufacture. In view, however, of the scarcity of labor there is never-

theless a disposition to obtain the best labor-saving appliances. To introduce a novelty and to secure any chance of its general adoption, great persistency and discrimination are necessary on the part of the importer, and very often, even after the most vigorous efforts have been made to introduce an article acknowledged to be meritorious, it may prove a complete failure. In any case, the indispensable requisites of success are: (1) The article must have decided merit, and be adapted to colonial requirements. (2) It must be well advertised, not only by notices in newspapers and periodicals, but its merits must be practically demonstrated in actual operation. Machinery especially must be exhibited at the principal agricultural fairs, numbering about seventy in all. Besides these, there are quite a number of competitive field trials at which certain classes of implements and machinery must be shown at actual work.

After all, there is the element of chance which must be taken into account. A really superior article may be introduced vigorously, and yet, owing to peculiar circumstances may nevertheless be received with apathy by the public generally.

SYSTEM OF PAYMENTS.

The importers purchase either by payment of cash on presentation of shipping documents or by draft at ninety or one hundred and twenty days' sight on London. The goods, if shipped by sailing vessels, will be three or four months in reaching Melbourne. They are then kept on hand for a period ranging from one to six months, or even longer. Perhaps ten per cent. of the goods may be sold to farmers direct, but the bulk will be supplied to country dealers and agents, who of course obtain a trade discount or commission from the importer. As a rule, the terms of credit given by importers are four months from the 1st of the month following date of delivery. The country storekeepers and agents generally give the same terms to their customers, but very frequently more liberal terms of payment are allowed. Sometimes payment of an account will be extended over twelve months, or from harvest to harvest, or even longer, but interest is generally charged on any period over four months.

As a rule a country dealer or agent will only order a machine when he has sold it to the farmer. Meanwhile the importer runs the risk of having to carry a portion of his stock from one season to another.

HOW SHIPMENTS ARE EFFECTED.

Shipments of heavy or bulky goods are made for the most part by sailing vessel.

From England there are several direct lines of steamers which arrive with merchandise of the lighter descriptions every week or ten days.

From the United States, however, goods reach Victoria by sailing vessels exclusively, with the exception of such limited shipments as come by steamer from San Francisco.

American manufacturers labor under a great disadvantage in this respect, and also in respect to the high freights from New York and Boston, which are 35 shillings per ton, as compared with from 15 to 20 shillings per ton from London, Liverpool, and Glasgow. If a direct line of steamers could be established, sailing monthly from New York and calling at Adelaide, Melbourne, and Sydney, with freights not exceeding $7 or $8 per ton, a great impetus would undoubtedly be given to our already increasing trade with the Australian colonies.

TARIFFS, CHARGES, ETC.

The Victorian tariff is a complex one, but the manufactures of all countries are on precisely the same footing. As already stated the duty on agricultural implements and machinery varies from 20 to 25 per cent. ad valorem.

The only expense incurred in connection with landing any goods, besides the customs duties, is the charge for wharfage, which varies from 3 pence to 9 pence per package, or 3 shillings per ton, according to the nature of the goods and the size of the packages.

IMPORTS OF AGRICULTURAL MACHINERY.

The following reliable firms in Melbourne are already engaged in the importation and sale of agricultural machinery and implements, both English and American: Newell & Co., Osborn, Cushing & Co., Long & Co., James McEwan & Co., McLean Brothers & Rigg, Briscoe & Co., Edward Keep & Co., Alfred Shaw & Co., and Hornsby, Howard and Samuelson.

ACKNOWLEDGMENTS.

Before closing I desire to acknowledge my indebtedness to W. J. H. Cushing, W. T. K. Dow, and Messrs. McLean Brothers & Rigg, of this city, for much valuable information furnished me, which has greatly facilitated the preparation of this report.

O. M. SPENCER,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Melbourne, August 13, 1884.

NEW ZEALAND.

REPORT BY CONSUL GRIFFIN, OF AUCKLAND.

Although the agricultural returns of New Zealand for 1884 in some respects are disappointing, more attention is being given at this time to all branches of farming than at any other period in the history of the colony. The people, however, do not take as much interest as formerly in agricultural shows. Indeed, many are of the opinion that these exhibitions have outlived their usefulness. The frequency with which they are held becomes somewhat annoying. Every city, town, county, and district must have its show, and it is said that there is not a village with a public house or a blacksmith's shop in the colony that does not aspire to having an agricultural association and exhibition; but the vast increase in the number of agricultural associations is in itself an evidence that the interest in agriculture is not dying out.

Movements, however, are being started in several of the colonies to amalgamate small societies and place them under the direction of central boards like those in the United States.

In Victoria a conference of delegates has been held from the various country societies for the purpose of federation. In support of this, Mr. Dow, M. L. A., who recently visited the United States, said the principle observed in America is that whatever is done in the way of agriculture is better for the country generally. He advised the colonists to

follow the Americans in encouraging the formation of new societies, and their system of bringing them under the control of a central association. He said:

> At the offices of the State board in America all the information in that particular State is to be had at once, by those desirous of entering on any agricultural pursuit, but in the colonies, although I am acquainted with men possessed of the most valuable information, there are no means by which their knowledge could be made available for the general weal. In America the information is published in the annual records prepared by the State board, which contains annually a lecture delivered by an authority in the State, upon every branch of agriculture.

Mr. Dow has, in various papers and speeches, advocated the introduction into the colonies of the methods of farming adopted in the United States, and especially in those branches of industry where machinery is employed.

Mr. Dow is not alone in his opinion. The truth is, nearly all intelligent farmers throughout Australasia are beginning to be aware of the great value of American machinery, and there is strong reason to believe that in a few years Australasia will become the most important and profitable market for American agricultural implements and machinery in the world.

EXTENT OF TERRITORIES.

The total area of New Zealand is 100,000 square miles, or about 64,000,000 acres. Of this 14,000,000 acres have been sold or disposed of in education and other public reserves; 16,000,000 belong to the aboriginal inhabitants, and 34,000,000 belong to the Government. Of the land belonging to the Government, about 15,000,000 acres are open grass or fern country, 10,000,000 forest, and 9,000,000 are barren mountain tops, lakes, and worthless country.

THE CHARACTER OF THE SOIL.

Dr. Hector, the colonial geologist, has furnished me with the subjoined table, showing the classification of the lands of New Zealand according to the geological subsoil:

Table showing the classification of the lands of New Zealand according to the geological subsoil.

Description.	North Island.	South Island.	Total.
	Sq. miles.	*Sq. miles.*	*Sq. miles.*
1. Fluviatile drifts, one-third agricultural	8,447	6,286	14,733
2. Marine tertiary, two-thirds agricultural (rest pastoral)	13,898	4,201	18,099
3. Upper secondary, coal-bearing, pastoral	2,390	2,110	4,500
4. Palæozoic, pastoral	5,437	20,231	25,668
5. Schistose, pastoral	.....	15,308	15,308
6. Granite, worthless	.....	5,978	5,978
7. Volcanic, one-sixth agricultural (rest pastoral)	14,564	1,150	15,714
Total	44,736	55,264	100,000

Dr. Hector states that a study of this table shows that there are in the whole of the colony about 12,000,000 acres of land fitted for agriculture, wherein the form of surface is suitable, and about 50,000,000 acres which are better adapted for pasturage; but from these estimates allowance must be made for about 20,000,000 acres covered by forest.

The estimate of suitable land for agriculture in the North Island is, I

think, unusually small, especially when it is taken into consideration that nearly the whole of the Waikato Basin, as well as other vast areas, can be broken up and put into crops of various kinds.

In my report on fruit culture in New Zealand, transmitted to the Department of State in my dispatch No. 192, of the 19th of April last, I directed attention to one of the most valuable agricultural districts in the colony, now almost wholly neglected, and which is especially adapted to nearly every kind of farming. This district stretches for a distance of nearly 200 miles towards the North Cape, and could easily be opened up by railways and placed in communication with all the large cities and towns in the North and South Islands.

My experience with railways, especially in the United States, where cheap freights can be obtained, is enough to convince me that when the roads are once built the adjacent lands are soon occupied and teem with agricultural and other wealth. The agricultural areas of the South Island are also worthy of the highest praise. The alluvial soil of the lower part of the Canterbury plains is of remarkable fertility. It is in the Canterbury districts where the great wheat crops are grown. In some of the alluvial deposits is found a considerable proportion of lime. The bottom of the soil is composed of shingle or gravel. The soil generally in Canterbury is rather stiff and hard to work. The marine tertiary deposits are regarded with less favor than any, with the exception perhaps of the vast pumice deposits in the Lake Taupo district, in the North Island, but whenever these marine tertiary deposits are carefully cultivated they give favorable results. The soil appears to be thin, more of the character of a free loam than of a stiff, cold clay. This class of soil is capable of much improvement, and will no doubt be in great demand when the lighter and more easily worked soils give evidence of exhaustion.

CONDITION OF AGRICULTURE.

The number of people engaged in agricultural pursuits is unusually large for the population of the colony, being about 57,000 out of 550,000. The number of holdings, according to the agricultural statistics collected in February and March, 1884, of over one acre in extent, is 28,537. Of these 19,417 are freehold estates, and 6,187 are rented or leased, and 2,987 are part freehold and part rented. There were in March, 1884, according to the same returns, 2,274,491 acres in sown grasses, and 2,460,155 acres in sown grasses not previously plowed, and 184,198 acres of land broken up but not under crop. The total number of acres under crop was 1,154,105. In wheat there were 377,706 acres. In oats, 345,974; barley, 32,907; in maize and sorghum, 4,435; in rye, 925; in peas and beans, 9,443; in potatoes, 21,102; in turnips or rape, 352,809; in mangolds, beets, carrots, parsnips and onions, 4,636; in tobacco, 50 acres, and other crops not enumerated, 4,418, and in garden and orchard produce 19,887 acres.

I append hereto a comparative table, showing the estimated gross produce of the various crops of New Zealand for the years 1883 and 1884, with the average per acre for each crop and the centesimal proportions for each provincial district:

Table showing the estimated gross produce of the crops of wheat, oats, barley, hay, and potatoes in each provincial district in New Zealand, according to returns collected in February, 1883, and February, 1884, respectively; with the averages per acre and the centesimal proportions for each provincial district of the total produce of each crop.

Provincial districts.	Wheat.				Oats.				Barley.				Hay.				Potatoes.			
	Acres.	Bushels.	Average per acre.	Centesimal proportion.	Acres.	Bushels.	Average per acre.	Centesimal proportion.	Acres.	Bushels.	Average per acre.	Centesimal proportion.	Acres.	Tons.	Average per acre.	Centesimal proportion.	Acres.	Tons.	Average per acre.	Centesimal proportion.
Auckland:																				
1884	9,332	236,723	25.37	2.41	3,932	109,568	27.87	1.19	229	6,055	26.44	0.63	18,171	22,370	1.23	21.79	4,153	20,309	4.89	17.94
1883	10,888	245,621	22.56	2.39	3,488	83,877	24.05	0.80	446	8,923	20.01	1.21	11,958	13,294	1.11	17.55	4,738	16,049	3.39	15.35
Taranaki:																				
1884	4,242	92,691	21.85	0.94	2,087	70,411	33.74	0.76	207	10,170	49.13	1.05	2,036	2,993	1.47	2.92	624	2,546	4.08	2.25
1883	4,198	122,367	29.15	1.19	3,180	96,048	30.20	0.91	66	1,897	28.74	0.26	1,795	2,290	1.28	3.02	548	2,456	4.48	2.35
Hawke's Bay:																				
1884	1,284	31,700	25.08	0.32	2,709	72,112	26.62	0.78	635	25,626	40.36	2.66	8,972	14,700	1.64	14.32	934	4,436	4.75	3.92
1883	1,148	26,598	23.17	0.26	4,372	90,081	20.60	0.86	349	12,926	37.04	1.75	9,112	13,122	1.44	17.31	1,146	3,529	3.08	3.37
Wellington:																				
1884	15,534	320,939	20.66	3.27	8,218	248,509	30.24	2.69	1,041	33,419	32.10	3.47	6,504	9,755	1.50	9.50	1,125	7,068	6.28	6.24
1883	15,038	363,022	24.14	3.54	10,549	255,038	24.18	2.42	837	18,612	22.22	2.53	5,628	8,497	1.51	11.22	1,141	5,644	4.94	5.40
Nelson:																				
1884	2,747	67,609	24.61	0.69	2,109	51,915	24.62	0.56	3,010	92,443	30.71	9.59	3,434	4,207	1.23	4.10	928	4,443	4.79	3.93
1883	2,327	42,231	18.15	0.41	2,264	39,932	27.64	0.38	3,572	66,379	18.58	0.00	3,204	3,558	1.11	4.70	1,074	5,753	5.36	5.50
Marlborough:																				
1884	3,277	67,055	20.46	0.68	2,671	90,491	33.88	0.98	3,842	126,873	33.02	13.15	1,278	1,945	1.52	1.90	449	3,125	6.96	2.76
1883	3,252	77,583	23.81	0.76	2,417	73,480	30.44	0.70	3,787	104,165	27.51	14.14	1,094	1,629	1.49	2.15	457	3,044	6.66	2.91
Canterbury:																				
1884	240,616	6,156,863	25.59	62.65	106,824	3,329,391	31.17	36.07	16,179	437,327	27.03	45.34	19,711	26,075	1.32	25.40	5,956	36,579	6.14	32.31
1883	249,163	6,859,992	25.53	61.92	136,487	4,086,965	29.94	38.85	14,443	378,457	26.20	51.33	16,855	19,088	1.13	25.13	5,120	32,401	6.33	30.98
Westland:																				
1884	.....	.....	.....	.....	4	85	21.25	.....	.....	.....	.....	.....	219	384	1.75	0.37	278	1,275	4.59	1.13
1883	.....	.....	.....	.....	8	220	27.50	.....	.....	.....	.....	.....	239	177	0.74	0.23	218	714	3.28	0.68
Otago:																				
1884	100,694	2,853,556	28.34	29.04	134,400	5,258,857	39.13	56.97	7,764	232,543	29.95	24.11	13,666	20,220	1.48	19.70	6,655	33,417	5.02	29.52
1883	104,804	3,033,227	28.94	29.53	157,093	5,794,787	36.89	55.08	4,646	145,804	31.38	19.78	11,174	14,159	1.26	18.69	6,046	34,991	5.79	33.46
Total:																				
1884	377,706	9,827,136	26.02	100.00	262,954	9,231,339	35.11	100.00	32,907	964,456	29.31	100.00	73,997	102,649	1.39	100.00	21,102	113,198	5.36	100.00
1883	390,818	10,270,591	26.28	100.00	319,858	10,520,428	32.89	100.00	28,146	737,163	26.19	100.00	61,054	75,764	1.24	100.00	20,488	104,581	5.10	100.00
Increase in 1884	.....	.....	.....	.....	.....	.....	.....	.....	4,761	227,293	.....	.....	12,943	26,885	.....	.....	614	8,617	.....	.....
Decrease in 1884	13,112	443,435	.....	.....	56,904	1,289,089	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

It will be seen from the above table that the wheat crop of 1884 yielded 443,445 bushels less than that of 1883, and that the average yield per acre was also less. The decline in oats was 1,289,089 bushels. The barley crop increased from 737,163 to 964,456 bushels, and the hay crop from 75,764 to 102,649 tons.

Many of the farmers complain that the prices obtained for wheat this year have not been satisfactory, but better prices are expected for the next harvest. Oats are better adapted for the South Island than in the north. Sheep and cattle are raised in large numbers in both islands, but the south has by far the largest proportion of sheep. Horses, cattle, and pigs do better, however, in the north than in the south.

There is a steady demand for New Zealand frozen mutton in the English market, but frozen beef does not fare so well. The meat is of excellent quality, but the cost of freight is too high and the distance too great to be exported profitably. Hence the cattle trade here for the present may be said to be over-done. Indeed, many farmers are killing their calves rather than incur the expense of bringing them up. This practice will, I think, soon cease, as they will probably be needed for dairy purposes. There is now a steady demand in foreign markets for New Zealand cheese and butter, and as the number of cheese and butter factories in both islands is increasing, it is not unreasonable to believe that New Zealand dairy farming will in the near future become a very profitable industry.

AMERICAN AGRICULTURAL IMPLEMENTS AND MACHINERY.

The value of the imports of agricultural implements and machinery into the colony of New Zealand for the year 1883 was $668,180 against $565,515 for 1882, an increase of $102,665 for 1883. The agricultural implements increased from $178,035 to $237,160, and the machinery increased from $387,480 to $431,020.

The subjoined table shows the value of the various kinds of agricultural machinery imported into New Zealand for each year since 1874, together with the names of the countries from which they were exported:

Table showing the number of packages and the value of agricultural machinery imported into New Zealand for each year from 1874 to 1883, inclusive.

Country.	Quantity.	Value.
1874.	*Packages.*	
United Kingdom	2,915	$227,995
New South Wales	16	620
Victoria	942	28,970
Fiji	3	250
United States	64	2,985
Total	3,940	260,820
1875.		
United Kingdom	4,450	336,490
New South Wales	22	1,915
Victoria	760	28,820
United States on the Atlantic	102	3,950
Total	5,334	371,175
1876.		
United Kingdom	3,580	262,565
New South Wales	69	1,305
Victoria	348	11,715
Sandwich Islands	13	200
United States on the Atlantic	83	2,405
Total	4,093	278,190
1877.	*Packages.*	
United Kingdom	3,334	$242,450
New South Wales	37	1,305
Victoria	413	19,290
United States:		
On the Atlantic	2,657	76,765
On the Pacific	16	915
Total	6,457	340,725
1878.		
United Kingdom	3,317	242,800
New South Wales	23	470
Victoria	560	27,350
South Sea Islands	2	1,000
United States:		
On the Atlantic	11,961	416,380
On the Pacific	379	18,025
Total	16,242	706,025
1879.		
United Kingdom	3,346	255,655
New South Wales	123	10,825
Victoria	245	8,970

Table showing the number of packages and the value of agricultural machinery, &c.—Cont'd.

Country.	Quantity.	Value.
1879.	*Packages.*	
United States:		
On the Atlantic	5,742	$162,150
On the Pacific	161	6,415
Total	9,617	444,025
1880.		
United Kingdom	1,929	161,890
New South Wales	169	4,190
Victoria	823	10,805
Tasmania	9	350
United States:		
On the Atlantic	3,460	138,195
On the Pacific	204	9,695
Total	6,094	325,125
1881.		
United Kingdom	1,886	140,745
New South Wales	173	9,835
Victoria	181	11,570
United States:		
On the Atlantic	3,354	153,415
On the Pacific	73	$3,145
Total	5,167	318,710
1882.		
United Kingdom	2,404	168,384
New South Wales	145	7,270
Victoria	337	16,265
South Sea Islands	1	150
United States:		
On the Atlantic	3,283	162,670
On the Pacific	79	1,895
Total	6,249	356,634
1883.		
United Kingdom	2,833	232,400
New South Wales	75	3,755
Victoria	795	5,880
Fiji	4	25
United States:		
On the Atlantic	4,152	186,595
On the Pacific	208	8,620
Total	8,067	437,275

It will be seen from this table that no inconsiderable quantity of agricultural machinery is set down as coming from Victoria and new South Wales and other Australasian colonies. These goods, however, were only reshipped from those countries, and were either manufactured in Great Britain or the United States.

It is difficult to form a just estimate of the value of American machinery imported into the colonies from the fact that the imports of American goods by way of England are not shown in the customs returns. The American engines, thrashing machines, harvesters, mowers and reapers, and, in fact, nearly all heavy machinery are usually shipped here direct.

All the leading manufacturers of American harvesters, mowing, reaping, and binding machines, are represented here, while many of them, such as McCormick, Johnson, Osborne, Wood, Allen, Warder, Bushnell & Glessners, and others have agents constantly traveling throughout Australasia. These agents fully understand the manner of operating their machines and the nature and character of the work to which they are adapted, and have little difficulty in creating a demand for them.

All the principal American machines used in the colonies have taken prizes in their respective classes at the international exhibitions at Melbourne and Sydney. The Wood's machine carried off the gold medal at the last Canterbury agricultural show, at Christchurch, New Zealand.

An interesting and exciting competition of reapers and string binders recently took place on the farm of Mr. James Shand, at Abbotsford, West Taieri, in this colony, under the auspices of the Otago Agricultural and Pastoral Association of New Zealand. Seven machines were entered for competition, viz: McCormick's, Osborne's, Wood's, Samuelson's, Howard's, and two Deerings (one exhibited by Reid, and the other by Roberson). All these machines, except Samuelson's and Howard's, were of American make. An accident, however, happened to Howard's machine the day previous, occasioned by the horses running away and smashing the driving wheel and other working parts, so that

Samuelson's was the only English machine that competed with the American ones. Seven acres of crop were allotted to each machine. Work was begun at forty minutes past nine. At 12 o'clock an adjournment was made for an hour and ten minutes for lunch. The McCormick machine was the first to finish its lot, which it did at a quarter to 4, having cut for about five hours at the rate of a little less than an acre and a half per hour. The Wood machine finished twenty minutes afterwards and the Osborne at about half-past four. When the judges retired, the Deering binders had several rounds to go. The first mishap occurred to the Osborne machine shortly after starting, when the main wheel dropped into a furrow in turning into an awkward corner, and the beam of the machine striking the ground caused the breakage of a small casting, carrying away two idler pulleys. The driving of the machine was at fault and interfered much with the appearance of the work. About half-past 3 the Samuelson machine was brought to a standstill by the breakage of the sway-bar of the receiving-board, and retired from the contest. Slight mishaps occurred to both the Deering machines towards the close of the contest. On the whole the contest was a very successful one, and the cutting and binding were unusually well and cleanly done. Besides the machines entered Messrs. Twentyman & Cousins displayed an Aultman wire-binder at work with very satisfactory results, and a Wood's wire binder converted into a string-binder was also employed by Mr. Shand. The heaviest allotments of the crop were drawn for the McCormick and Mr. D. Reid's Deering binders, and during the day about 60 acres of a 150-acre field of wheat were cut and bound. Messrs. James Shand and J. F. Peake acted as attending members of committee, and the judges were Messrs. James Allen (Hopehill), James Smith (Greenfield), James Shand, John Duncan (Cherry Farm), John Stevenson (Henley), James Smeaton (Mosgiel), and James Gray (Reid & Gray), the five former gentlemen representing practical farming and the two latter acting as experts.

The following is the opinion of the judges:

Samuelson's did not finish allotment; Osborne, 12 points; Wood, 23 points; Mr. D. Reid's Deering, 18 points; McCormick's, 23 points. We, the undersigned judges appointed by the Otago Agricultural and Pastoral Association to judge the twine-binders, have come to the conclusion that in the crop cut to-day the work done by the Wood and McCormick machines and by the Samuelson, until the time of the accident (within two rounds of finishing), was as near perfection as well could be. We have also come to the conclusion, taking everything into account, to make the Wood and McCormick machines a tie, and if the society wish to choose the best, a more severe test in heavier grain must be applied. Mr. Shand is willing to give a field heavy enough for the purpose, and before your judges would finally decide they are willing to give another day to test the respective merits of the rival machines. There was only one wire binder at work and it wrought very satisfactorily. (Signed by the seven judges.)

Hornsby & Sons, of Grantham, are the only English manufacturers whose machines are likely to enter into strong competition with the American ones. They have recently successfully introduced here their "Challenge" mower and "Back Delivery" reaper. This is an old machine, which they claim to have improved by reducing the draft and increasing the speed of the knife so that every kind of grain and artificial grass may be cut. The machine is said to have been especially designed for the colonial market and can be used either with a pole for two horses or with shafts for a single horse. As a mower it has a special track-board and malleable-iron divider and a large wooden divider for reaping.

The English agricultural steam-engines, portable and semi-portable

traction engines, vertical and horizontal engines, thrashing machines and corn-dressing machines are of much heavier weight than the American ones and seem to be preferred, notwithstanding their high price and the difficulty of repairing them.

The colonists have not yet overcome their prejudice against the lightweight and stylish workmanship of the American machines. Indeed, they have been so accustomed to associate clumsiness and heaviness with strength and durability, that they look upon a heavy old-fashioned English machine of 6 horse-power as quite equal to an American machine of 12 horse-power.

The colonists also have a great partiality for the English pulping and crushing machines for crushing turnips, oats, beans, and all kinds of cattle food. American thrashing machines, and especially those of the smaller size, are, however, rapidly superseding the English ones.

The American machines for making butter and cheese are also preferred, and a number of factories for the manufacture of these articles are in operation in the colony, the machinery and appliances for which have been obtained from the United States. Mr. William Bowron, the inspector of dairy produce factories in New Zealand, however, is a strong advocate for the construction of these factories upon the English instead of the American principle. He admits that the American system has many advantages, but argues "that cheese and butter, if desired, can be made equally well on the American principle with the English machinery; whereas these articles, and especially cheese, cannot be conveniently made on the English principle with the American plant.' Now, the reverse of this is true, and it will require something further than such utterances to convince the New Zealand farmer and capitalist that a cumbersome and expensive process for cheese and butter making will answer the purpose quite as well as a simple and economical one. Mr. Bowron, however, is generous enough to praise very highly the "Cooley" system of setting milk, and in a recent report says:

> The honor of the discovery that cream could be raised within twelve hours, or between milkings, belongs alone to Mr. Cooley, of Washington County, Vermont. The value of the discovery can hardly be computed. The saving in cost of apparatus, the increased quantity of butter obtained during the hot weather, and the value of the milk after parting with its butter, will add considerably to the profits of the dairymen.

In New Zealand there are quite a number of flax and rope factories in which American machinery could very profitably and advantageously be introduced.

The manufacture of *Phormium tenax* (New Zealand flax), the strongest vegetable material in the world, has, since the establishment of the Auckland Fiber Company, become a very important industry here. Mr. T. A. Smith, of Saint Louis, Mo., has recently invented and patented a machine for working this flax. Mr. Smith's machine, which is remarkable for the simplicity of its construction and the rapidity and economy of its operation, has been successfully used in Mississippi and other Southern States of America, in the manufacture of hemp. It reduces the stalks of the plant by one operation to the condition of soft, pliable ribbon, free from slivers or bark, which, after being subjected to a short maceration in soft clear water, are entirely free from gum. A company, it is said, is shortly to be organized here for the use of these machines on a large scale, and also for the cultivation of flax and other similar material.

The operation of this machine is a very simple one. The material is placed between a pair of plain crushing rollers, then between the break-

ing rolls; from thence it passes to the cleaning rolls and apron, the latter preserving the material parallel and untangled while under treatment. When thus cleaned to the extent of one-half or more of their length, the stalks are automatically withdrawn and laid upon the feed table, by reversing which the other end of the stalks is presented to the machine and similarly treated. The construction, both of the breaking rolls and the cleaners, is peculiar to this machine. While under the operation of the cleaning rolls, jets of liquid (either water or chemical preparation) are effectively applied along the entire sheet of the material, the effect of which is to form a kind of cushion to the fiber while being treated.

Air, steam, or gas can be applied by the same jets, the selection to be determined by the peculiar characteristics of the plant under treatment.

AGRICULTURAL IMPLEMENTS.

Although the annual value of the imports of agricultural implements into New Zealand from the United States has steadily increased within the last few years, the industry can scarcely be said to have reached the proportions which the American manufacturers have a right to expect. Nevertheless these imports have increased at a far greater rate than those from England. In 1874 the total value of the imports of agricultural implements from the United States was only $3,090, while those from Great Britain amounted to $101,465. In 1883 the annual imports from the United States increased to $68,710, at the rate of 201 per cent., while those from England increased to $163,190, an increase of only 10 per cent.

The following table shows the number of packages and value of agricultural implements imported into New Zealand since 1874:

Table showing the number of packages and value of agricultural implements imported into New Zealand for each year from 1874 *to* 1883, *inclusive, together with the names of the countries from which they were imported.*

Country.	Quantity.	Value.
1874.	*Packages.*	
United Kingdom	2,490	$101,465
Victoria	481	11,745
Fiji	2	125
United States	128	3,090
Total	3,101	116,425
1875.		
United Kingdom	2,520	91,220
New South Wales	12	180
Victoria	419	9,290
United States:		
On the Atlantic	280	5,170
On the Pacific	12	480
Total	3,243	106,340
1876.		
United Kingdom	2,173	113,025
New South Wales	7	95
Victoria	184	4,180
Tasmania	1	5
United States:		
On the Atlantic	213	4,075
On the Pacific	33	420
Total	2,611	121,800
1877.	*Packages.*	
United Kingdom	2,375	$88,490
New South Wales	4	215
Victoria	263	9,070
United States:		
On the Atlantic	287	4,305
On the Pacific	32	1,050
Total	2,941	103,130
1878.		
United Kingdom	5,070	203,645
New South Wales	29	1,640
Victoria	282	9,935
United States:		
On the Atlantic	8,226	105,975
On the Pacific	17	645
Total	8,624	321,840
1879.		
United Kingdom	4,121	173,410
New South Wales	314	8,490
Victoria	125	4,805
Tasmania	13	415

Table showing the number of packages and value of agricultural implements, &c.—Cont'd.

County.	Quantity.	Value.
1879.		
United States:	*Packages.*	
On the Atlantic	1,087	$25,250
On the Pacific	48	1,215
Total	5,718	213,575
1880.		
United Kingdom	1,002	46,195
New South Wales	64	885
Victoria	113	1,880
United States:		
On the Atlantic	359	10,155
On the Pacific	16	770
South Sea Islands	1	10
Total	1,555	59,895
1881.		
United Kingdom	1,862	76,140
New South Wales	39	1,820
Victoria	108	3,620
South Australia	1	700
United States:		
On the Atlantic	643	15,815

Country.	Quantity.	Value.
1881.		
United States:	*Packages.*	
On the Pacific	27	$1,395
Total	2,680	99,490
1882.		
United Kingdom	2,234	128,780
New South Wales	45	830
Victoria	256	6,160
South Australia	5	326
United States:		
On the Atlantic	1,416	38,230
On the Pacific	122	3,715
Total	4,078	178,035
1883.		
United Kingdom	3,141	163,190
New South Wales	26	1,170
Victoria	197	4,090
United States:		
On the East Coast	2,132	68,280
On the West Coast	20	430
Total	5,516	237,160

I regret to be obliged to say that the English and colonial plows are more general in use in New Zealand than the American ones. It is only within the last few years that a systematic effort has been made to introduce the American plows into this market. The New Zealand make of plows, although very popular, are not so good and low priced as those from the United States, and besides the wheels, mold-boards, shares, and indeed all the working parts of the plow are imported. These plows are made after the Scotch style, with long old-fashioned handles, and have double furrows. Reid & Gray, of Dunedin, Wallace & Holtham, of Auckland, and Booth McDonald & Co., P. B. Duncan, and Andrews & Co., of Christchurch, are amongst the best known New Zealand manufacturers of plows. Reid & Gray and Andrews & Co. also manufacture chaff-cutters and several kinds of agricultural implements.

The "California" gang, "Moline" gang, and "Gilpin" gang plows, and the Oliver chilled plows, together with a number of other American plows, have been introduced here, but as yet there is no great demand for them. The Oliver chilled plows are adapted to every kind and condition of soil, and work satisfactorily under all circumstances. It is said that the Oliver Chilled Plow Works, at South Bend, Ind., where these plows are made, are the largest distinctive plow works in the world. They are made of the best steel and chilled iron. Their size and shape are adapted for the lightest and heaviest plowing, and they can be worked with one light draft or two or four horses. Mr. Thompson, the agent for the Oliver chilled plows in Australasia, informs me that the demand for them in Victoria and New South Wales is so great that the firm is obliged to keep some one in those colonies all the time looking after their interests. He says that the draft and suction of the plows are so perfect that any new farm hand or boy can easily learn to do perfect work with them. They turn top soil under so completely that not a weed, spear of grass, or bit of stubble can be seen after the plow has done its work. The ground is so thoroughly pulverized during the process that there is no necessity of harrowing the land for sowing or planting.

These plows, according to their size, open the ground from 2 to 14

inches in depth, and throw a furrow from 5 to 16 inches wide. They are very strong and durable, and so arranged that any part can be replaced at a small cost. These pieces are called extras or repairs, and with them the farmer is enabled to have continuously a new or perfect plow.

The "Oliver Casaday sulky plow" has also been introduced not only in New Zealand, but throughout Australasia. They are single or gang plows. The single "sulky" will cut the ground to the depth of from 2 to 14 inches, and turn a furrow from 6 to 22 inches. The "Gang," having two plow-shares, cuts the same depth as the single, but throws a furrow from 24 to 34 inches. The "sulky" plow is of light draft, and can be worked by a boy of twelve years of age. Where these plows are used, the farmer is not unfrequently seen sitting comfortably in a spring seat with an umbrella to keep off the sun or rain and with a lighted pipe, plowing his ground at the rate of 5 acres a day.

There is an English plow made in imitation of the Oliver chilled plow, and called the Anglo-American, but it has not yet entered into serious competition with it.

The American spades, shovels, rakes, axes, barley and hay forks, garden and grub hoes, corn-drill scarifiers, lawn-mowers, scales, tumble-rakes, disk and spring-toothed harrows, and winnowing machines, have distanced all competitors.

HOW TO EXTEND AMERICAN TRADE.

The best means of increasing the sale of American agricultural machinery and implements is through intelligent traveling or resident agents who understand fully the practical working of their machines and implements and the nature of the work to which they are adapted. As to the best method of advertising, the weight of opinion appears to be in favor of illustrated pamphlets and catalogues containing cuts, drawings, and engravings of the articles for sale, accompanied by descriptive and explanatory notes.

DEALERS IN AGRICULTURAL IMPLEMENTS.

None of the houses in New Zealand deal exclusively in agricultural implements and machinery, but combine them with ironmongery or hardware; nor are there any branch houses of English and American manufactures in the colony. Bate, Sise & Co., Bresci & Co., the New Zealand Hardware Company, Park & Curle, and P. Andrews & Co., of Dunedin; John Anderson, Morrow, Basset & Co., Reid, Gray & Co., Andrews & Beavin, and Mason, Struthers & Co., of Christchurch; Dawson & Co., Duthi & Co., E. W. Mills, Robert Gardner & Co., of Wellington; T. & S. Morrin & Co., E. Porter & Co., Cruckshank, Miller & Co., J. Dickey and G. W. Owen & Co., of Auckland, are amongst the leading dealers in agricultural implements and machinery in this colony.

THE TARIFF.

There is no duty or tariff on agricultural machinery and implements imported into New Zealand. Ironmongery or hardware is taxed at the rate of 15 per cent. ad valorem, but this does not include axes, hatchets, spades, shovels, iron chains, artificer's tools, &c. Cutlery, however, pays 15 per cent. ad valorem, but all kinds of farming implements are admitted free, so are all kinds of machinery, whether for agricultural purposes or otherwise. Carts, wagons, and drays have to pay a duty

of 15 per cent. ad valorem. The tariff of New Zealand applies equally to Great Britain and her colonies as to the United States and other countries.

THE SYSTEM ON WHICH PURCHASES ARE MADE.

Agricultural machinery and implements are purchased in New Zealand either for cash or on credit, although the latter system is the most prevalent. The only advantage cash buyers have is the usual discount from 2½ to 5 per cent. at the end of thirty days. Interest is charged on accounts, if not paid at the end of three months, at the rate of 8 per cent. per annum, provided due notice has been given. In the wholesale trade promissory notes, payable three months after date, are given with interest at the rate of 10 per cent. per annum.

There are no laws against usury in New Zealand, and the local courts will enforce the collection of all debts contracted in the colony, together with all interest accrued thereon at the rate contracted for between the parties.

By the mercantile law act of 1880 of New Zealand the laws of England relating to usury are declared not to be in force. Section 44 of the act reads: "There shall be no limit to the amount of interest which any person may lawfully contract to pay."

Amongst the difficulties in the way of importing agricultural implements and machinery from the United States is the present medium of exchange between New Zealand and that country. The truth is, as I have repeatedly pointed out in various reports to the Department of State, New Zealand has no direct exchange with the United States. The greater part of the exchange between the two countries is done by way of London. The New Zealand merchant desirous of importing goods direct from an American port usually pays a small commission to his banker to establish a credit in favor of his agent in the United States. The colonial banker then instructs his correspondent in America to buy the drafts of the American merchant on his friends in the colony up to a specified amount. Such drafts are to be accompanied by shipping documents, which usually constitute the title or ownership to the goods on their arrival in the colony. These drafts are bought by the American banker, on the faith of the credit issued by the New Zealand banker, at the current rate of exchange in London, and then sent to the branch of the colonial bank in the latter city. Another method is the remittance by the colonial merchant of drafts on his banker or agent in London, which can be negotiated in the United States at a small premium.

The exchange of merchandise between the United States and New Zealand is very small, especially with the South Island. Sometimes, however, the American merchants ship goods to New Zealand, and receive the proceeds in kauri gum, wool, rabbit-skins, &c. When an American merchant wishes to buy New Zealand products he generally sends a credit, by which his agent here is authorized to draw on a London banker, at sixty, ninety, or one hundred and twenty days after sight, for the cost of New Zealand products, with the usual charges added. The charges on all banking transactions between the United States and New Zealand is fully 5 per cent. higher than between New Zealand and London.

COST OF FREIGHT, INSURANCE, WHARFAGE, ETC.

The cost of freight on agricultural machinery and implements from New York direct to Auckland and other New Zealand ports by sailing vessels is 15 cents per cubic foot. The price has been reduced only

recently to that sum; it was formerly 25 cents per cubic foot, and it is very generally believed that the reduction has been made only temporarily and for the purpose of discouraging opposition. The cost of freight from San Francisco to Auckland, via the Pacific Mail Steamship Company, varies from $15 to $20 per ton measurement of 40 cubic feet. The merchants here complain very bitterly at these rates, and say that there can be no extensive trade between the west coast of the United States and New Zealand ports until the freight charges are reduced.

The New Zealand merchants are also desirous of a faster and more frequent service. There is only one steamer per month leaving San Francisco for Auckland, and the voyage usually occupies twenty-one days. The merchants contend that the establishment of a fortnightly service of fast steamers between San Francisco and the Australasian colonies, with low rates of freight, would soon be self-sustaining, and would not require a subsidy.

Nearly all the leading firms in the United States trading with the Australasian colonies have either branch houses or agents in San Francisco, who are prepared to sell goods at prices very little in advance of those in Eastern cities; and, besides, California herself, amongst other products suitable for this market, manufactures an almost endless variety of agricultural implements and machinery, the excellence and cheapness of which are probably unsurpassed in any other part of the world.

As an evidence of what can be done by a frequent steam service, I will mention that since the establishment of the two direct lines from New Zealand to London, viz, the Shaw, Saville & Co. and the New Zealand Shipping Company, the trade between this colony and the United States has increased fully 50 per cent. Heretofore American goods shipped by way of London to New Zealand had to be transshipped again either at Sydney or Melbourne. Now there is only one transshipment, and the cost of through freight from New York to New Zealand, including the charges for transit across the Atlantic and transshipment at London, does not average more than $15 per ton; nor is the freight longer than sixty days reaching its destination.

The rates of insurance on goods from New York to New Zealand ports is from 1 to 1½ per cent. The former rate covers goods free of particular average, and the latter insures against all risks. These rates do not differ materially from those between London and New Zealand.

The insurance from San Francisco to New Zealand ports is about 1 per cent. on the insurable value of the goods, and if the amount is a large one a reasonable discount is allowed.

The present wharfage rates at the various New Zealand ports are lower than heretofore. Goods intended for transshipment at Auckland are required to pay only half the regular landing charges, and at Wellington the reduction is greater than that.

The wharf charges in Auckland on agricultural implements and machinery are 2 shillings (48 cents) per ton. Wagons and carriages pay 5 shillings ($1.20) per ton. There is also a charge of 1 shilling (24 cents) per ton for receiving goods under shed, and 1 shilling (24 cents) for delivering out of shed.

The storage charges are 6 pence (12 cents) for the first night, and 9 pence (18 cents) for every subsequent night.

G. W. GRIFFIN,
Consul.

UNITED STATES CONSULATE,
Auckland, New Zealand, October 15, 1884.

TASMANIA.

REPORT BY CONSUL WEBSTER, OF HOBART.

With reference to your circular of 20th February relating to agricultural machinery—which was received 19th May—I have the honor to report as follows:

AREA AND SOIL.

The total area of Tasmania is 15,571,500 acres, of which only a small proportion consists of arable land. In 1883 the total land in crop was 140,375 acres.

For the most part the agricultural land is divided into small farms, seldom exceeding 500 acres under crop.

The nature and productiveness of the soil and the agricultural condition and mode of cultivation vary considerably.

In several districts the soil is basaltic, of the richest character, and has been originally heavily timbered. The cost of clearing land of this character being heavy, only the underwood has in most cases been removed, the large trees—frequently two and three hundred feet high—have been killed by ringing, and are left standing thickly on the ground.

CROPS.

The rest of the cultivated lands are of good average quality, as will be seen by the following average yields per acre: Wheat, 17.74; barley, 25.57; oats, 27.39; rye, 13.28; peas, 19.49; beans, 21.15; tares, 15.70 bushels. Linseed, 418.75; hops, 1,105.40 pounds. Carrots, 8.37; onions, 4.30; potatoes, 3.59; turnips, 5.87; mangel wurzel, 12.93; hay, 1.29 tons. Artificial grass seed, 12.14 bushels.

MACHINERY AND IMPLEMENTS IN USE.

There is nothing exceptional in the mode of cultivation pursued, all but the most complicated and costly implements and machines in use in America and England being availed of. Single, double, and three furrow plows; cultivators, scarifiers, harrows of almost all patterns, seed-drills, potato plows, mowing, reaping, and self-binding machines; strippers, horse hay-rakes, horse and steam thrashing machinery; hay-presses, &c., being in general use. Steam plows are unsuitable, and expensive clod-crushers and rollers do not find favor. Generally on well-cleared farms there is an increasing tendency toward the use of all the most advanced implements, as far as the hilly and uneven surface of the land in some cases will permit of their application. Tools, implements, and machines of English, American, Australian, and local make are used.

AMERICAN MACHINERY IN TASMANIA.

Of the former, *i. e.*, tools and small ware, I believe two-thirds in use are American make, their lightness, adaptability, and finish being superior to the English. In the large class of implements and machines American manufactures are considered hardly so strong as the English

and colonial, and the two latter are consequently for the most part preferred as more suited to the country.

The American self-binding reapers have hitherto commanded the preference, both from their undoubted excellence and from the fact that, having been the first introduced, they are better known. Much of the country, for reasons already referred to, is not suited for such machines.

HOW MACHINERY IS IMPORTED.

American and British machinery is imported by local houses direct from the manufacturer and through their agents in the adjoining colonies, who, having a larger field for operations and better facilities for cheap freight, can often supply small requirements to a greater advantage.

Considering the limited demand for machines of any particular class, I do not think that for the present any improvement can be made in the mode of introduction nor in the manner of distribution.

Sales are made direct by the importer to the farmer at a moderate profit, and every facility is afforded in the way of credit to induce purchase.

DEALERS IN AGRICULTURAL MACHINERY.

The names of those engaged in the sale of agricultural machinery are: In Hobart, Henry, Cane & Co. and A. G. Webster & Son (of which firm I am the senior partner). In Launceston: W. Hart & Sons, Alexander Webster, and John C. Ferguson.

DUTY ON MACHINERY.

The duty on machinery is 5 per cent. ad valorem, unless worked by steam or horse power, when it is free. No exceptional advantages are given to British manufactures.

FREIGHT ON MACHINERY.

Freight is the only other important element of cost, and here again American goods are subjected to little or no greater expense than the British; but there is the drawback of infrequent direct communication with America by sailing ship as compared with that with Great Britain by numerous lines of steamers calling regularly at Melbourne, only forty hours' sail hence, and a few which come direct.

ENLARGEMENT OF AMERICAN TRADE.

Upon the whole, there is not much opening here for any special effort to introduce any particular machine, the demand being limited, while it is certain that any machine that is imported into the neighboring colonies would speedily find its way here if suited to the peculiarity of the country. I need hardly add that it would, however, be my duty in my official and a satisfaction in my business capacity to co-operate cordially in any effort to extend the introduction and sale of American machinery.

In conclusion, I trust this report will be considered as full as the circumstances of the case necessitate.

A. G. WEBSTER,
Consul.

UNITED STATES CONSULATE,
Hobart, June 3, 1884.

POLYNES

SAMOA.

REPORT BY CONSUL CANISIUS.

In reply to the circular of February 20, relative to agricultural machinery, I have the honor to inform you that no agricultural machinery is used in these islands as yet, everything being done with ax, hoe, and knife.

The axes in use here are almost exclusively of American manufacture. Also American shovels, knives, and hoes find favor, but the demand is very small.

I have no doubt that when large sugar and coffee plantations are established there will be a considerable demand for American plantation machinery.

T. CANISIUS,
Consul.

UNITED STATES CONSULATE,
Apia, May 16, 1884.

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